

MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL
RAILROAD AND FINANCIAL NEWSPAPER.

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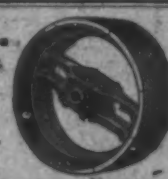
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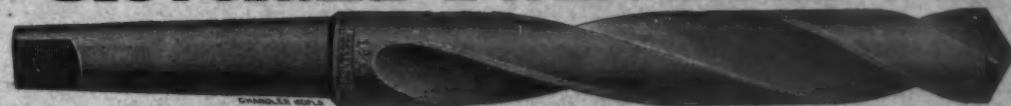


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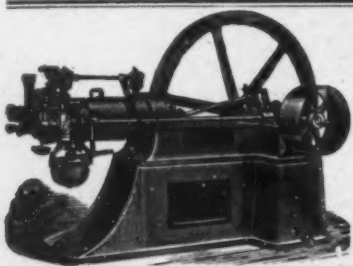
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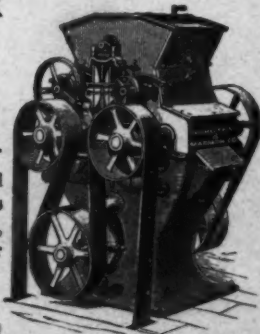


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soon be as famous as of old. Both of these yards will be as complete as modern skill can make them, and their products of steel and iron should, and unquestionably will, hold the same high position in the world's merchant marine of the future as the famous wooden clipper ships built on the shores of this same bay did fifty years ago.

The Sparrow Point yard will have sufficient capacity to build eight steamships at once, and all the iron and steel work necessary to complete the ships will be done in the adjoining buildings of this same great plant. Not only will ship plates and the other parts necessary to complete the hulls be built here, but the engines and all other machinery will also be built in the adjoining shops, so that an order for an iron or steel-steamship to this company means that the company will mine the ore from its own mineral properties, convert it into pig, then work it up into the various forms necessary to make every part of the ship.

The completion of this yard will be of great value to the South, for more or less Southern ores, and undoubtedly quantities of Southern wood, will be used in the various processes of building and finishing up steamships. This company will use Virginia ores very largely in connection with its Cuban ores, if they can be had of the desired quality and at prices that will justify their purchase.

Best Furnace Record Ever Made.

The Bulletin of the Iron and Steel Association says:

We learn from Mr. James Gayley, superintendent of furnaces at the Edgar Thomson Steel Works, at Braddock, Pa., that Furnace F, which went out of blast on August 7, 1889, was relined and blown in again on the 25th of September. Some slight changes were made in the furnace lines with a view to obtaining greater economy in fuel, but otherwise the furnace is practically the same as before. The results so far obtained have been a great improvement over the former run. Commencing with the month of November the record of output and fuel consumption has been as follows:

Bessemer iron— Gross tons	Pounds of coke per gross tons of iron produced.
November.....9,097	1,897
December.....10,603	1,750
January.....10,536	1,737
Best week's output 2,462	1,702
Best day's output. 457	.....

The best record obtained during the previous blast was as follows:

Bessemer iron— Gross tons	Pounds of coke per gross tons of iron produced.
Month.....8,478	1,994
Week.....2,161	.....
Day.....419	.....

These records certainly warrant the erection of the three brooms and the hoisting of the American flag which the men have enthusiastically raised at the tunnel-head of the furnace.

This is certainly a remarkable record. A furnace that can turn out 457 tons of iron in one day, and that produces a ton of iron to 1,700 to 1,800 pounds of coke used, is doing work that merits careful study by every iron man in the South.

What a Virginia Town Has Done in Twelve Months.

One year ago a few progressive Virginia men organized a company to build an entirely new town which they named Buena Vista. It was wholly a local enterprise. Lexington people organized it, and the money was subscribed there and in the adjoining counties. The starting of new towns was at that time a somewhat novel thing in Virginia, and so the projectors of this enterprise did not have many examples of new towns in that State to point out as illustrations of what could be done. However, they went ahead quietly and pushed their work without arousing any great speculative real estate boom. On an attractive knoll in a beautiful field they wisely first of all built a handsome hotel, and then they commenced to plan for new industries. Just one year has elapsed, and it is worth while to see what they have done to give confidence to others who are engaged in the work of developing the South's resources along the same line. From the Buena Vista Advocate we take a tabular statement showing the number of enterprises already secured, with their capital stock and the amount subscribed. We also give a similar list of those now being negotiated for, and there is every assurance that they will be closed at an early day:

ENTERPRISES SECURED.	Capital subs'd.	Author'd capital.
Buena Vista Co.....	\$750,000	\$5,000,000
Basic Steel Works.....	500,000	1,000,000
Rolling Mills.....	50,000	100,000
Appold & Son, Steam Tannery.....	.....	100,000
Stationery Works.....	50,000	100,000
Furnace Plant.....	300,000	100,000
Buena Vista Iron Co.....	250,000	1,000,000
Buena Vista Paper Mfg. Co.....	85,000	1,000,000
Buena Vista Saddle & Har. Co.....	10,000	25,000
Buena Vista Woolen Mills.....	70,000	100,000
Buena Vista Tin Works.....	20,000	50,000
Buena Vista Planing Mills.....	20,000	50,000
Buena Vista Saw Mills.....	10,000	10,000
Buena Vista Building & J. Co.....	50,000	100,000
Buena Vista Improvement Co.....	50,000	100,000
Buena Vista Water & Light Co.....	50,000	100,000
Buena Vista Fire Brick Works.....	50,000	100,000
Buena Vista Fence Factory.....	25,000	100,000
Wise Wagon Works.....	25,000	100,000
Lexington Investment Co.....	30,000	100,000
Advocate Newspaper & Job Office.....	.....	.....
NEGOTIATING FOR.		
Tin Can Factory.....	100,000	1,000,000
Tin Plate Works.....	300,000	1,000,000
Additional Furnace Plant.....	300,000	1,000,000
Machine Shops.....	100,000	500,000
Paint Works.....	25,000	500,000

For a twelve months record this is certainly a showing that merits the highest commendation. The men who have done this work have demonstrated what can be accomplished in the building of new towns in Virginia. They have done the whole State a great service.

But this list is really not complete. It does not include the fine hotel and the many houses constructed, the other land companies organized to help on the development of the town, and still other projects that are being matured. The men who have made such a signal success of Buena Vista deserve the heartiest commendation of every man interested in the progress and prosperity of Virginia.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South cannot find a better medium than the MANUFACTURERS' RECORD.

Coke Rules.

Some time ago Dr. J. W. Ford, who was largely instrumental in organizing the two great land improvement companies that are operating at Fort Payne, Ala., and Denison, Texas, in a public speech setting forth the advantages of the latter place by reason of its proximity to fine coking coal fields, declared that not cotton, not iron ore, but "Coke is King." His reasons were very striking and based on facts, and the same line of thought is presented by the American Manufacturer, of Pittsburgh, which says:

Now, to what is the great increase in Pittsburgh's furnace capacity due? It is not because of the abundant supplies of ore at Pittsburgh, for, as stated above, Pittsburgh brings its ore a thousand miles. It seems to us that the great growth of the pig iron industry in Pittsburgh is due to two causes—in the first place to the possession in its immediate vicinity of the most admirable of all fuel, the Connellsville coke, and, as has so often been pointed out in these columns, it is fuel and not ore that is the most potent factor in determining the location of furnaces.

Pittsburgh hauls its ore a thousand miles, and does it because good coke is near at hand. What then of the future of that great section of the South where the highest grades of both ore and coke are found within a short distance of each other, where, within a radius of 25 to 100 miles, varying according to location, all varieties of ores and the best coking coal, fully equalling Connellsville, are found in exhaustless quantities, and what of the places where these materials are less than five miles from the furnace, and where transportation of ore and coke is virtually eliminated from the calculations of cost? And very rapidly industries to consume the pig iron where produced.

AN interesting item concerning the Southern coal trade appeared recently in the New York Commercial Bulletin in the following paragraph:

The import of coal from the United States to the port of Havana during 1888 is stated to have amounted to 97,547 tons, as against 53,255 tons in 1887, and that from Great Britain to 50,378 as against 74,843 tons. Thus the American import exceeded the average of the last ten years, which is calculated at about 66,000 tons, while the import from Great Britain fell far short of its average of 80,000 tons. That a further alteration in the relative proportions of the coal imports from Great Britain and the United States may take place is not improbable. American speculators are arranging for large shipments of coal from the Alabama mines to Cuba and other West Indian islands. Should this enterprise prove successful, the effect on British trade would be most unfavorable, as it would obviously be difficult for British exporters to compete with Americans in the matter of freights.

The coal shipments noted are but forerunners of that greater trade soon to be inaugurated which will supply the coaling stations of all the Central American ports, making thus a new and great market that will tax to the full the capacity of many great mines, and give paying employment to

Southern railroads and shipping. The markets are waiting, and it is but a question of how soon we can get ready to supply them.

Sensible Views.

On the 21st of January an excursion party consisting of two hundred people from the North visited Fort Payne, Ala. A mass meeting was held in the opera-house. Col. J. W. Spaulding, formerly of New England, but now the able president of the Fort Payne Coal & Iron Co., delivered the address of welcome, in which he said:

We folks who came here almost a year ago have learned much from the Southern people. We have found them more agreeable than we are. They are more gentle in their manners and more polished in society. They have softer voices, and are not so much after money making as we Yankees are. They have been a great help to us in building up this city, and while we have been a help to them in many respects, they have taught us some valuable lessons. The enterprising men of this immediate vicinity have joined hands with us, and all of us together, Northern as well as Southern men, have accomplished what you see in Fort Payne. We have no political or sectional differences. We are getting along harmoniously together.

Some time ago the MANUFACTURERS' RECORD said the South would like to have a few thousand such New Englanders as Col. Spaulding, and after reading the above sensible statements we feel like enlarging the number and making it a few hundred thousand, provided they can be found.

PROSPECTORS are said to be looking around Morristown pretty freely, and some large real estate sales have lately been made. A new railroad to Cumberland Gap is projected and the company to build it has been organized. There are few points in the South more advantageously located as regards the proximity of minerals, timber and agricultural resources than Morristown, and it ought to become one of the leading centers of industry in that richly endowed section—East Tennessee.

THE latest reported discovery in connection with the cotton seed comes from Germany, where, it is said, a process has been discovered for extracting sugar from cotton-seed meal. The sugar is of a very superior grade, but cannot be sold in competition with the ordinary article. It is said to be inclined to ferment or sour, and hence better for use in preserving fruits. It is said to be fifteen times sweeter than cane sugar, and twenty times more so than sugar made from beets.

THE American Carpet and Upholstery Trade for February is one of the best arranged and printed trade journals the MANUFACTURERS' RECORD has ever seen. In its new form and enlarged field it has every advantage to be a journal of wide influence, and is to be congratulated upon its striking evidences of success.

WESTERN CAROLINA ORES.

Still Finding Bessemer Ores.

Major West and His Mountain Climbing.

HEADQUARTERS
MANUFACTURERS' RECORD'S
EXPLORING EXPEDITION.
CRANBERRY, N. C., January 30, 1890.

Clear frosty mornings! A cheerful fire of sweetly odorous pine to dress by, a cup of genuine Mocha to wash down a good breakfast, a pipe and "boot and saddle!" these be the regular introductions to the days labors and pleasures. Sunrise, as viewed from any one of these noble peaks, is beautiful, begging description. With the eye of faith we have seen rosy cheeked Aurora's first blush glowing reflectively with soft peach flush tones on the distant ridges, next the clouds that have slept all night along the mountain summits, are waked up, and, being clothed in bright radiance of rose and purple, roll away to carry on their fructifying agency between sea and soil. I say we see this with the eye of faith, and upon the veracious authenticity of people who testify to personal experience. At present it is rather too chilly to make it desirable for one to leave camp at two o'clock A. M. in order to reach the show before the curtain rises; but I have no doubt it is all there, and John G. Saxé, the inspired poet of horse sense, never uttered a triter thing than when he sagely observed:

The man who can't enjoy
His forty morning winks,
Be sure is bent on villainy;—
Or he drinks!

Following a day of honest climbing, and other "projicking," these same "forty morning winks" are a luxury not to be traded for a whole circus of sunrises,—with which pretty sentiment, a lark-like gem, of the music of philosophy, let us, for our improvement, revert to the consideration of the Bessemer or non-Bessemer character of the magnetite ores of these gentle wilds.

We dropped that department of the subject at a point where we had just made Bessemer pig iron out of 20,000 tons of Cranberry ore at Allentown, Pa., in 1884. We resumed it at the charcoal furnace of the Cranberry Co. here on the ground. In order to a better understanding it should be remarked that the company, in connection with the mines, operates at Cranberry a charcoal furnace with a capacity of twenty and a present average output of fifteen tons of pig iron per day. Charcoal is plenty and cheap enough in this neighborhood. The company has a fine battery of bee-hive ovens, but gets a great deal as well from the surrounding country, where many of the natives are expert charcoal burners. Not to make too long a story of the Bessemer question, I have examined the furnace and all the facts and data obtainable, and am satisfied that the product is Bessemer pig beyond question, and more than satisfactorily within the limits. The company produces evidence to show that continuous sales have been made of its grey forge and mottled irons in Philadelphia at \$25 per ton, and that the iron in question has generally analyzed less than 0.002 in phosphorus. Because of the fact that any views about the North Carolina magnetites have been called in question, at least in one instance, it may not be out of place to state that any doubter, whose position as to iron or steel interests, or the development of this section, justifies him in taking the time of these gentlemen, may obtain farther information by addressing Col. Nimson, gen-

eral manager of the Cranberry mines; General J. T. Wilder, of Johnson City, Tenn., or Mr. E. C. Pechin, who, I am told, uses the ores at the furnaces under his charge at Roanoke, Va. It is needless to add that all the gentlemen named are recognized authorities on such matters.

If special mention has been made of matters in and about the Cranberry mines in ways to bring the company's organization into prominence in the narrative, it has been unavoidable. The developments hereabouts have been almost entirely the work of this corporation, and to speak of anything here involves the Cranberry Co. That necessity does not alter in the least the settled principle of this reconnaissance, that private or corporate interests are in no case to be advertised or boomed. We have some other ore sub-districts and deposits with which to make acquaintance, but before leaving the immediate Cranberry neighborhood, something not quite mineral in character may be usefully interpolated.

From the valley bottom to the top of the Cranberry ore deposit, where the developments are going on, is a distance vertically of 380 feet. Walking to the top of a soft clay, when the clay is yielding and slippery, is not as easy as falling out of bed, and is, moreover, calculated to bring some muscles into play and possibly pain. But once at the summit and seated in one of the sheltered observatories placed there for the comfort of visitors, the view of the surrounding country is worth double the price of admission. The cyclorama of peaks, ridges and valleys is here delightful. Following around the horizon you see venerable and impressive Grandfather's Peak, the Chimney Rocks, Beech Mountains, Flat Top, Fork Mountain and a score of other notable elevations. In many directions clearing of the mountain sides is going on, and numerous ploughed fields may be detected. These denudations are useful in two ways. They furnish charcoal for the busy furnace below, and they bring under cultivation lands of remarkable richness; lands covered with a deep soil of fruitful vegetable mold, which for some reason or other does not wash disastrously as do the soils on most steep lands. The evident fertility of the region is an interesting fact connected with its industrial future. Food products should be raised as nearly as possible to the mouths they are to feed. In this and the adjoining county it would seem that there is enough excellent arable and pasture land to supply most of the needs of a large local working population.

The grasses are fine and have been long famous for their ability to put adipose upon the ribs of the "cattle upon a thousand hills." I am told that for generations the lean kine of the Carolina lowlands have been driven to these mountains and turned loose for months at a time; to the lasting improvement of the milk, butter, veal and porter house steaks for the blessings of which our frail and perishing humanity is so greatly indebted to the bovine race. Far up above the line where gnats and gad-flies molest and make afraid, mutton and wool sprout and bloom like mushrooms in a millionaire's cellar. On the top of one of the mountains, in full view from Cranberry Hill, there is a beautifully wooded grassy plateau of three hundred and fifty acres. This Col. Nimson has fenced in, sown with orchard grass and converted into an ideal sheep ranche. At frequent intervals on the plateau bold, gushing springs break out and run dashing down to the valley in tiny torrents. Added to a boundless supply of purest water, the plateau climate is exceptionally equable and invigorating even for this favored locality. The ranche is to be stocked with fine Southdown bucks and carefully selected ewes of aristocratic extraction. Then, as in the case of Alderman Mulcahy's gondolas in Central Park, "let nature take her course!"

That this unvarnished tale may be prop-

erly "marbled," after the manner of the beef that epicures love, it should be observed (it was forgotten at the proper point) that some time ago the experiment was tried of substituting Pocahontas coke for charcoal in the Cranberry furnace. The results were excellent. The iron made under these conditions is reported to have compared favorably with the charcoal iron and to have shown an equally low percentage of phosphorus in the pig. Which serves to remind us that the Cranberry deposit proper is not the only one that can be turned into feed for the Bessemer process. About north (N. 10° W.) from Cranberry, and nine miles distant, is Elk Valley. Here, six miles from Shell Creek Station, is a mine opened and ready for commercial development as soon as transportation can be supplied. The owner of the property, Mr. T. H. Teagarden, M. E., expects shortly to construct a tram road which shall connect him with the railway, and then to ship ore at once. The Elk Valley magnetites occur in a vein 30 feet wide, or thereabouts, of which the solid ore forms a good half. This vein, dipping say 45 degrees to the northwest, shows a well defined granite foot wall, but I cannot learn that the hanging wall has been identified. The gangue is white quartz and wedges of dark green slate. The ore is easily separated from these associations. It has a close granular structure, much like Swedish ores, and also closely resembling the Michigan ore from Lake Superior. The vein has been tapped by means of two openings 300 feet apart, the larger showing a face of 80 feet. As much as 1,500 tons of the ore has been mined and is on the dump to speak for itself. A number of analyses have been made at different times. One made by Mr. Andrew Carnegie's chemist at Pittsburgh, Pa., gives:

Metallic iron.....	59.510
Silica.....	11.100
Phosphorus.....	0.028
Sulphur.....	0.11

It is probable that the above may give the Elk Valley ore a higher percentage of metallic iron than it will average; at the same time it is the highest in phosphorus and sulphur of any that I could get track of. Another analysis (Fritsch) gave iron, 54, and phosphorus, .003. From all I can gather I should say it is safe to estimate the average at iron, 50 per cent., and phosphorus, 0.028. About its being a true Bessemer ore there is not the least room for doubt.

Through Mitchell county, Caroline and Carter, Tennessee, there are some desirable leads well calculated to interest mine operators and capitalists. It may be said, too, that there is a great deal of territory that might not repay much attention. In places it is altogether likely that the conditions might be found unfavorable. The country has been often and often hunted over and examined by engineers and emissaries of the ablest sort. There are things about it that are not to be learned in the course of a cursory examination, and which require, not only skill, but years of close and careful study. It is also true that the old resident population can supply the lack to but the least extent, being wanting in expert knowledge. To some degree outsiders have gone in. Mr. H. F. De Bardeleben, of Birmingham, bought a patch on the Cranberry lead in 1887. Mr. Teagarden has good iron property in the Elk Valley, and I know of two or three excellent and reasonable openings, with all conditions desirable, and which capitalists who may happen to be in the field for superior chances and mean business, could hear of by addressing the subscriber through the office of the MANUFACTURERS' RECORD. I mention this in that spirit of true and undefiled philanthropy which should permeate and break out all over on one who, like the writer, is but an humble Missionary to the Manganese.

GOLDSMITH BERNARD WEST.

Pyrites Ores in the Southern States,

With Reference to Their Economical Use for Sulphuric Acid Manufacture.

BY W. H. ADAMS, M. E., TOLERSVILLE, VA.

[FOR THE MANUFACTURERS' RECORD.]
No. 3.

There is nothing in the literature of to-day which concisely and clearly places the peculiar features or characteristics of the prominent pyrites mines of the world before enquiring students, enabling them to readily institute comparisons with the newer fields they may be called upon to investigate. Looking forward to more careful studies in this particular direction in the Southern States, it may be well to introduce here a brief but general outline of such well-known properties as properly would be likened to those at present being opened in the United States—mining properties whose products have changed so radically many of the most important chemical industries of the world, and promise in the future to be essential factors of the new civilization.

Following the table of analyses given last week of the different ores, although not in the order as presented, we have, first—

THE GREAT SPANISH PYRITES DEPOSITS.

The mineralized zone of the Sierra Morena, in Andalusia, Spain, which is 160 miles long and 25 miles wide, is without question the grandest distribution of mineral wealth ever discovered. Exploited by the early Celts, extensively developed by the Phenicians, and for three hundred years worked on the most gigantic scale by the Romans; with over 20,000,000 tons of slags and cinders visible to prove the activity and persistence of the ancients; with miles of underground workings, tools, timber and other evidences of their engineering and mechanical skill, we have in this section at the present time a series of object lessons in mining, mechanics, hydraulics and government beyond any comparison. To the eastward are the rich lead mines of Linares; the Rio Tinto and Tharsus are in the center, and at the westerly end are the San Domingos group of mines in Portugal. Work was abandoned from the time the Moors obtained possession of the country until about 140 years ago, since which time mining has been carried on in a desultory manner, principally by the State, in order to support the resident population.

As the work produced no income over and above expenses, the Crown, for many reasons not necessary to mention, sold the principal mines to English capitalists, and workings were inaugurated by them on a scale befitting the magnitude and value of the deposits.

So many of the characteristic features of the district are met with in our own country, and, in fact, are common to most or all extensive deposits of pyrites, that a few sentences will sufficiently explain the semblance geologically. The prevailing rocks are clay slates and crystalline slates, often highly metamorphosed. Parallel to the granitic tract of the Sierra, felsite, porphyry and quartzite have broken through the slates, and only in the neighborhood of such dykes are the beds of pyrites found. Their shape is that of large lenticular pockets in metamorphic clay slate from 100 to 500 feet thick, and extending 800 to 1,200 feet in length.

The whole bed is filled with pure pyrites, without appreciable gangue. These beds are found sometimes 12 feet below the surface, in a sandy condition, and easily gotten by pit-work. In other places the zone of decomposition reaches from 60 to 300 feet below the surface.

It would require a column of space to enumerate even the special features of interest connected with the work now going

on along the range. Nearly three million tons of pyrites are raised from the mines each year, yielding over one million tons of sulphur and nearly one hundred thousand tons of copper. Of the copper about two-thirds, and of the sulphur perhaps two-fifths, are utilized by sale in the world's markets, the result being that by the opening of these mines, and the impetus given to trade generally, the price of the former has been reduced over one-half, and of the latter over seventy per centum since 1870.

There are three groups of mines well known to us, the Rio Tinto, the Tharsus and the San Domingos, but there are hundreds of lesser magnitude with ores of copper, manganese, lead, zinc blende, etc.; so that this mining section will continue to play a leading part in the history of chemical and metallurgical industries for many centuries to come.

The Rio Tinto mines are reached from the port of Huelva, South Spain, by a railway sixty-five miles in length. The deposits of this group are known as the North lode, the South lode, the San Dionisio lode and the Valley lode. The principal workings are on the South lode, the openings being 4,500 feet in length, 300 feet in depth and 600 feet in width. To work this deposit advantageously it was decided to remove four and a-half million tons of surface earth, iron ores and granular pyrites too poor in copper to be worth saving. This done, 300 feet of clean quarry ores lie above the double-track tunnel, and lateral branches enables the entire mass of copper-bearing pyrites to be loaded from shutes directly into cars. 700,000 to 800,000 tons are thus taken from the South lode every year, and a fair estimate of the body of ore now disclosed above and below the tunnel is one hundred million tons. The tunnel which is now used for this work will eventually be driven three miles to reach the San Dionisio lode, the ore bodies of which are in excess of the South lode. Over one and a-half million tons are annually mined by this company, all of which is worked for copper alone on the ground, or shipped from Huelva to be worked for sulphur, copper, iron and precious metals. Naturally the plant of such a property must excite admiration. The railway is capable of transporting 2,000 tons daily to Huelva, where shipping facilities are on the same liberal scale.

The question of a sufficient water supply to continue throughout the year the operations of copper extraction by wet methods has now been solved by occupation of the Odill basin, and the impounding therein, behind a dam eighty feet high, of over one hundred million cubic feet of water. Cast iron pipes fifteen inches in diameter and nearly seven miles in length deliver this water to the different workings. The precipitating tanks for copper manufacture, if joined together, would be about seven miles long, and ore piles containing one hundred thousand tons of low grade copper ores undergoing leaching treatment are commonly met with, several million tons in all stages of working being constantly under supervision by the vast army of workmen.

The Tharsus mines are second only to the Rio Tinto, with an output of one-half a million tons annually, and the San Domingos rate as third, with over three hundred thousand tons output every year.

In addition to this enormous tonnage from Spain and Portugal, there is also mined in Ireland and England about 40,000 tons; in Germany about 150,000 tons; in France about 200,000 tons; in Belgium about 50,000 tons, all of which is consumed at home, and in Sweden about 30,000 tons for export. These amounts are consumed in addition to imports from Spain, as stated, making about two million tons of pyrites now utilized—the result of less than thirty

years' experimenting and study with a class of products well known for ages past, although worked only for one or two of their contained metals, and, necessarily, at great disadvantages. The results are so far-reaching as to have revolutionized many industries within the past fifteen years, and the future of metal mining on so gigantic a scale as inaugurated by the companies mentioned, and covering the scope which we realize fully they alone can cover, will still further benefit humanity, as reductions in the prices of essential products always do. The values in such ores, when means are at hand for utilization of all the products, have never been rightly understood by the public, but exceed ordinary calculations, as witness:

PRODUCTS FROM TWO MILLION TONS SPANISH ORES, ONE YEAR'S OUTPUT, AT PRESENT PRICES.
Sulphur, 900,000 tons, market value, say \$15.....\$13,500,000
Copper, 60,000 tons, market value, say \$200.....12,000,000
Iron, 1,200,000 tons, market value, say \$3.....3,600,000
Gold and silver.....2,500,000

Market value of mine products.....\$31,100,000

While such a possibility as marketing the entire annual output of those mines is, of course, a remote one, yet who can say, in the light of operations for past thirty years, what may not be done in the coming twenty or thirty years. If that class of mines were in our own country and worked on the scale of the Tharsus mines, say half a million tons yearly, we could soon absorb that tonnage, and at to-day's prices the results would be as follows:

RESULTS OF MINING AND WORKING 500,000 TONS PYRITES IN THE UNITED STATES.

Products—
Sulphur, average 45% — 225,000 tons, valued @ \$10.....\$2,250,000
Copper, average 3.5% — 17,500 tons, valued @ \$200.....3,500,000
Iron residues, say 200,000 tons, valued @ \$3.....600,000
Gold and silver, valued @ \$1.....500,000

Total products.....\$6,850,000

Costs—
Mining 500,000 tons @ \$1.50.....\$ 750,000
Freights to chemical works @ \$2.....1,000,000
Copper extraction 17,500 tons @ \$80.....1,400,000
Gold and silver extraction.....200,000
Incidentals, interest, &c.....500,000
3,850,000

Balance is annual net profit.....\$3,000,000
Or profit per ton of mine ore, \$6.

As the capital required for such an enterprise as above would not exceed \$3,000,000, the results would be very satisfactory.

I introduce these statements principally to show the wide difference in values between the old-time methods of mining, strictly for sale of one product in the ores, and the new procedure by which capital is brought to bear to carry the ores through every stage of beneficiation. It is a well-known fact that all the pyrites ores sent to England and the Continent up to within a short time by the three large companies mentioned cost absolutely nothing as delivered to the extraction works, the sale of the sulphur under contract recouping them for outlay, as witness:

One ton Spanish ore sent to England contains average 46% sulphur, which is sold for 6d. per unit.....\$5.50
Costs on same to owners:
Mining.....\$1.00
Freights to Huelva, rail.....1.00
to England, vessel.....3.25
Storage and delivery......25 5.50

The result of so handsome a business operation as the securing of long-time contracts for supplies of sulphur in ores containing copper, is that the copper, iron and gold and silver is only chargeable with the small cost of extraction from materials almost fully prepared for such a process. But for the unforeseen supplies of copper from Montana and the extravagant expenditure in development of the Spanish mine deposits fifty years in advance of necessities, we should know them now as the largest and surest dividend payers in the world. As it is, however, the many chemical and metallurgical industries which have run along in grooves for ten years past, while sulphur in ores sold at 6d. per unit, will now have an awakening to newer life with sulphur offered from 1½d. to 4d., and it is such radical changes which, in America, we should watch and take advantage of.

Germany has a way of altering her methods of manufacture when dissatisfied with fluctuations in prices of sulphur in Spanish ores. Thus, the Renania Chemical Works, as one example, have chambers at Stolberg, Oberhausen, Hamhorn, Bensburg and Dortmund, in connection with and making use of the waste gases from zinc smelting works. 12,000 tons of 60° B acid were made by this company in 1880, while this year they will turn out over 80,000 tons of same grade acid, following the natural increase of trade without disturbing values, but freeing themselves from dictation of English sellers of pyrites. As the waste gases of the Rhine and Westphalia zinc works are able to furnish double this amount of acid, preparations are now being made to insure a market for the surplus over and above natural necessities in manufacture of ammonia sulphates—taking waste gases from the coke ovens for source of nitrogen.

With regard to other deposits of pyrites in Europe, they are identical in so many respects, except as to magnitude, that we will pass them by at this time. Among them, however, the Mansfield copper-silver ores deserve mention at greater length than possible in this article. These mines are on the southern slope of the Hartz mountains in Northern Germany, between Sandersleben and Eisleben, although mines were formerly worked 30 miles southwest in the Thuringia mountains. 50,000 people are directly dependent upon the success of these mining operations, and 18,000 are actually employed in ore mines, coal mines, chemical and metallurgical works, and for the official staff. The income from all sources is about \$7,500,000, with expenses probably \$6,000,000. Among the items of manufacture in 1888 are copper, 12,000 tons, and silver, 80 tons. The total cost of ore delivered to works is over seven dollars per ton, even on an annual output of over 400,000 tons; the copper averages about 3 per cent. and the silver over 5 oz. per ton.

This magnificent enterprise stands without a rival among the copper companies of the world, inasmuch as so many auxiliary branches are successfully conducted from the mines' products, and is a fit type of diversified working eminently applicable to several sections of our own country, and will, to a certain extent, furnish the text for my later articles in this series.

A DISPATCH from Laredo, Texas, says: "After a sharp competition with the iron foundries of San Antonio and St. Louis, Mo., the Mexican government yesterday awarded the large contract for the iron work for the large and costly building to be erected at Piedras Negras, Mexico, to be used by that government as custom house, Federal courthouse and bonded warehouse, to the Laredo Foundry & Machine Co. This building will cost in the construction \$200,000, in which iron casting will form an important item. The Laredo Foundry & Machine Co., although organized only a few months, has thus secured the largest order ever placed at one time with a Texas foundry. This demonstrates the favorable location of Laredo as a manufacturing point for Texas and Mexico. The unprecedented flow of American and European capital into Mexico, and the corresponding development of that country has created a large demand for machinery and manufacturing articles, and the Laredo foundry and machine shops have bids on large contracts.

Several large capitalists and manufacturers are in the city with a view to making a heavy investment in real estate and the establishment of manufactories. They express great surprise at finding so progressive a city as Laredo on the Rio Grande, and predict that the resources of this section will necessarily build up a great city here in the immediate future."

THE SOUTH'S PROGRESS.

Col. Pat. Donan, the "Boomer-in-Chief of Dakota," Grows Enthusiastic Over the South's Amazing Progress and Prospects.

Predictions as to the Future—Interesting Facts About Waynesboro, Va., and the Developments in Progress.

[Spec. correspondence MANUFACTURERS' RECORD.]
WASHINGTON, D. C., Feb. 10, 1890.

I met here yesterday Col. Pat. Donan, for years the great boomer-in-chief of Dakota and the New Northwest. For more than a decade his speeches, editorials, letters and interviews have furnished the staple advertising material of the Northern Pacific, the Manitoba, the Chicago, Milwaukee & St. Paul, the Chicago & North-western, the Chicago, Burlington & Quincy, the Rock Island, Wisconsin Central, Michigan Central, Chicago & Alton and all the other great railways whose enterprise and energy have built a half-dozen populous and prosperous States in what was an almost unknown wilderness less than half a generation ago. Many of his half-jocular, half-serious, but always wholly-earnest booming screeds in regard to his chosen region have been published throughout the world; newspapers have re-published them as curiosities in literature and oratory; European steamship companies have issued them in pamphlets, circulars and hand-bills, and scattered them broadcast over the old world as immigration documents; and some of them have found their way into the school readers and recitation books as eye-openers for the young spouters of the future. Donan has seen nearly every part of the world. He is a keenly observant man, and his scent of a coming boom is almost infallible. He has just returned from a flying trip South, and is boiling over with enthusiasm in regard to that region and its prospects. I had an hour's talk with him at his hotel, and I wish, for the sake of our Southern friends, I could give it to the MANUFACTURERS' RECORD in full; but I shall have to content myself with a brief epitome of his rhapsodies. In reply to a question as to how he had been impressed by his trip, he exclaimed:

"Delighted, my dear fellow! There is no describing the magnificent progress the South is making. In spite of all the jack-asseries and criminalities of our national politics, in spite of our so-called statesmen and their alleged statesmanship, the whole country is growing and prospering as no other land under heaven ever did before; but the most wonderful part of that growth and prosperity is south of the Potomac and Ohio to-day. I have seen all the famous booms of the American Great West from Manitoba to Mexico, and I think I may without egotism say I have had as much to do with most of them as any other living man—or dead one either, for that matter. I have had a hand in the Dakota boom, which has turned the wild buffalo pastures and Indian hunting grounds of ten or fifteen years ago into two sovereign States of the Union, with nearly a million people to-day. I have witnessed the mighty booms in Minnesota and Wisconsin, Iowa, Nebraska, Kansas, Colorado and New Mexico, and had some slight share in all of them. I have seen the crazy boom in Southern California, when cactus patches ten miles from nowhere sold at Broadway and Fifth avenue prices by the foot to fools from everywhere; and in Oklahoma, when madmen poured in by tens of thousands to seize quarter sections of arid desolation on which a prairie dog would starve to death. I have seen them all, and been a little part of them all, or nearly all, from

Winnipeg and Fargo and Deadwood, Duluth, Minneapolis, St. Paul and Kansas City to Los Angeles, San Diego, Cheyenne and Guthrie, but I have never seen anything that surpassed, if it ever equaled, the gigantic boom that has now set in all over the South. It is a glorious cyclone of progress that is sweeping everything old foggy and stupid out of its path. It beats all the wonders of the Arabian Nights, with a whole tin shop stock of Aladdin's lamps thrown in. It is magical, marvelous, glorious!"

"To what do you attribute this sudden change for the better in the South?" I ventured to ask.

"To the fact that the world is at last beginning to get its eyes opened to the infinite riches of Southern resources. Nowhere on all God's beautiful earth is there a region blessed with so many and such vast natural advantages. Millions on millions of acres of land as fertile as ever the sun shone on, to be had for the mere asking and taking; lands that yield almost spontaneously every grain, grass, fruit and vegetable of the temperate and sub-tropical zones. Mountains ribbed with inexhaustible stores of coal and iron, gold, silver, copper, lead, zinc and every other metal and mineral known to commerce. Quarries of marble of every hue enough to furnish palaces and tombstones for all creation. Building stone of every variety in quantities sufficient to supply the world till the last man has gone to 'mansions not made by human hands.' Mighty forests of all the most valuable timbers, waving their long arms from ten thousand hill and mountain sides. Grand rivers offering free transportation to all the wares of the artificer. Crystal streams tumbling and foaming everywhere, babbling of water-power enough, long wasted, to turn all the wheels and spindles of the universe. And, over it all, skies as bright and a climate as mild and healthful as ever blessed primeval paradise. What more could be asked? Why should hundreds of thousands of emigrant home-seekers pour every year into the bleak and blizzard plains of the far Northwest, when such a land as I have described holds out its arms and begs them to come? Why should the enterprising, industrious, thrifty multitudes flock to a region where it is 'winter nine months in the year, and d—d late in the fall the other three'—where it is a bitter struggle even for a coyote or a prairie-dog to live—when the South offers to all honest comers every bounty of soil, climate, mine and forest that Jehovah himself could possibly bestow on His most favored children? Why should capital seek investment in a thousand wild-cat schemes and remote barbarian lands, when the grand treasure-houses of the gods in the South only await the touch of enterprise and energy to pour their infinite riches into any coffer? My dear fellow, the whole South is one vast field of limitless resources, and it is only necessary to sow a little money and nerve and Yankee push to harvest a whole crop of flourishing cities and magnificently paying ventures."

Here I interrupted to ask: "Where or how is the rush of improvement you speak of most manifest? In what does it consist?"

"Everywhere, in everything," he replied. "From Virginia to Texas the whole country is on the boom. New railroads are being pushed in every direction; new mines are being opened; new farms put in cultivation; new mills and factories established, and new towns and cities founded. Nothing in all the history of American progress has ever surpassed the rapid rise of some of these young cities. They are veritable municipal Jonah's gourd, rising in the night, as it were, from nothing, into the full rush and dazzle of metropolitan life. Twenty years ago Kansas City was a rude frontier village; to-day it has 150,000

people, and does tens of millions of dollars of annual business. Fifteen years ago Birmingham Ala., was a mixture of dilapidated cotton plantation and unbroken forest. It could have been bought then for a dollar and a-quarter an acre. To-day it is a rushing, roaring city, claiming 75,000 inhabitants, and recognized as one of the great iron manufacturing cities of the world. Ten years ago Knoxville, Tenn., was little more than a rough mountain village, chiefly known as the former home of old Parson Brownlow. To-day it is a beautiful and prosperous city of over 40,000 people, while in the same brief period Chattanooga has risen from a railroad crossing and eating station to a population of 30,000, and a proud position among the young manufacturing cities of the country. Galveston, Charleston, Nashville, Memphis, Pensacola and a hundred other places show something of the same astonishing growth, but they are all somewhat tame compared with some of the still newer cities that have seemingly sprung like mushrooms out of the earth. Not to mention Anniston and Bessemer, Alabama, it is scarcely more than five years since the land where the pretty and flourishing city of Roanoke, Va., with its 15,000 people, now stands, could have been bought for ten or twenty dollars an acre. To-day it brings from \$100 to \$200 a front foot. Eighteen months ago land about the village of Johnson City, in East Tennessee, sold for from \$20 to \$30 per acre. Recently twenty-five foot lots of that same land have brought from \$500 to \$1,000. Middlesborough, Ky., is a bustling mining and railroad town to-day, where the wild forest was unbroken by a woodman's axe twelve months ago. But why go on with this list? There are dozens, scores, hundreds, of such instances. Right at the doors of Washington and Baltimore young cities are being founded that, within a few brief moons, will be as notable examples of this wondrous Southern boom as any I have mentioned. I have just spent a day or two in one of these cities of the near future, that is a fair type of all the rest. But you must be tired. I'm a little so myself. What will you take?"

I hastened to assure the tall Dakota colonel that I was not tired, and begged him to go on and tell me of the place that had so evidently interested him. So, after a brief interview with the gentleman across the bar, he continued:

"It is Waynesboro, Va. Yes, I knew it would surprise you. It has long been one of the slowest and sleepest little cross-roads villages in all the South; but the boom has struck it, and struck it hard. It would not surprise me to see a city of 10,000 people there within eighteen months or two years, and possibly of 20,000 within another year or two."

"But what," I exclaimed, "is to build it? What is to make it?"

"Just what has built and made all the other magic cities of the South—the discovery of vast wealth of resources in and around it, and the enterprise and capital of a few clear-headed men. It has started, and nothing but the wholesale conflagration of the universe can stop it. The place now has 1,500 inhabitants. It is within four hours of Washington, at the crossing of the great Chesapeake & Ohio and the Shenandoah Valley systems of railroad. It is near the very heart of the grandest coal and iron fields of America. It is literally walled in by mountains of ore and minerals. With Waynesboro as a center, a radius of forty miles will include every variety of iron ore known to science—magnetic, red specular, limonite, red and brown hematites, fossiliferous, carboniferous, manganese and red shale, and they are all found in vast quantities. The town is built on a mass of solid limestone of the finest quality, and surrounded by exhaustless beds of it. Forests of oak, elm, ash,

hickory, maple and walnut stretch for miles in every direction, furnishing timber for every building and manufacturing purpose. Situated, as it is, at the intersection of two great systems of railway, the coming city can get the best coke in the world from three sources—from the New river coking fields, by the Chesapeake & Ohio; from Pocahontas or Flat Top, by the Norfolk & Western and its tributary, the Shenandoah Valley, and from Connellsville by the Shenandoah Valley and the Pennsylvania system. Experts say that with the natural advantages of the place—its vast deposits of high-grade ore, its fuel supply, its abundant limestone for fluxing, and the cheapness of labor and living—a ton of pig metal can be made here for \$9 or less. It is possible to make a ton of pig iron here, ship it to Newport News by the Chesapeake & Ohio railroad, load it as ballast on cotton-carrying vessels, and lay it down in England as cheaply as it can be made there! Think of that, my boy! Five cities—Boston, New York, Philadelphia, Pittsburgh and Cincinnati—consume three-fifths of all the iron produced, consumed or used in the United States. Waynesboro has choice of all these markets at not more than three dollars a ton freight. Think of that, too!"

What has been done in the way of development and improvement? What work is actually going on? I enquired.

"As I said, the place already has 1,500 people. It has Presbyterian, Methodist, Baptist and Lutheran churches, and the Catholics and Episcopalians are building. It has a flourishing female seminary, with about a hundred young lady students; and a military academy, with nearly a hundred cadets; among whom are two brothers-in-law of Berry Wall, the king of the dudes, of New York, sons of Captain W. F. Melbourne, of Washington. It has a roller-process flouring mill, with a capacity of 125 barrels a day; two large furniture factories, a sash and blind factory, an extensive foundry, a creamery, three hotels and a good newspaper. All these are in full blast, running successfully; but they are hardly worth mentioning besides the new enterprises and establishments that are just being inaugurated or projected. Among these are a furnace and iron mills, with a capital of \$2,000,000, machine works to be put in by Ohio capitalists; rolling mills and bridge works, street car lines, electric-light plant, water works, with a capacity for 75,000 people, a new and handsome hotel, a carriage and wagon factory, and a number of building associations, loan and trust companies and other similar organizations. The First National Bank of Waynesboro is getting its building and safes into shape for opening its doors, and the Waynesboro Board of Trade is an active and public-spirited body of men, every one of whom believes in the manifest destiny of his young city. The transfers of real estate within the last sixty days have amounted to about \$500,000, and prices are rushing upward at race-horse speed."

Here I broke in to ask: But what is to maintain this boom? What is to make the thing permanent?

"Why the iron, the coal, the timber, the glorious climate, the cheapness of living, and the energy and money of the wide-awake men who have taken hold of the place. I was just going to tell you, that in addition to all the institutions and organizations I have enumerated, several powerful corporations are interested in and around the town. The Waynesboro Land & Improvement Co. has gone to work with a capital of \$500,000. The Basic Mining & Manufacturing Co. has a capital of \$700,000. General Thomas L. Rosser and others have entered the field with a land and development company and a capital of \$200,000. The Wayne Mining Co., with a capital of \$500,000, begins next week exten-

sive mining operations. The Hermann Iron Co., of Philadelphia, has a capital of \$1,000,000, and proposes to mine 1,000 tons of ore a day; and you are, perhaps, not aware that Andrew Carnegie is working down there. I never knew it till a few days ago. His mine is a short distance out of Waynesboro. It is called the "Crimora," and is the largest manganese mine, so far as is known, in the world. He leases it, paying \$2.50 a ton royalty. The production in the three years since he began work upon it has amounted to about \$2,500,000, on which he has paid the owners \$250,000 in royalty. He is now taking out over 1,500 tons a month. But probably the greatest and most important of all the companies interested in the building up of the city and the development of the region is the Roseland Iron & Coal Co., of which General W. S. Rosecrans, register of the United States Treasury, is president and Herman Becker, of Philadelphia, treasurer. The company has a capital of \$1,000,000, and it owns property of incalculable value, including a mountain of red specular ore. There are 3,000 acres in the tract, on which are seventeen veins of the ore from seven to forty feet wide, and running the whole length of the land—five miles. The ore runs according to assays made for the company from 52 to 57 per cent. of metallic iron, with little more than a trace of phosphorous. In quantity it is pronounced, by the highest authority, absolutely exhaustless. Besides this there is a vast bed of brown hematite ore, which can be mined—or rather quarried—like limestone from the surface. The company is pushing work, and will soon be in condition to turn out 1,000 tons a day. Both the Chesapeake & Ohio and the Shenandoah Valley Railroads run through the entire body of land, one north and south, and the other east and west. A huge furnace and rolling mill will be erected and many kindred enterprises set going. The carrying out of the plans of this one company means the making of a city of 10,000 inhabitants as speedily as roofs and walls can be reared to house them."

"But where will the water supply for the city be found?"

"The South Fork of the Shenandoah river runs right through it; but, far better than that, surpassing anything of the kind I have ever seen elsewhere, is Baker Spring, pouring out 7,000,000 gallons of water a day. It infinitely excels the famous springs at Huntsville and Tusculum, Alabama. The water bursts out of the side of a low spur of the Blue Ridge Mountains in a stream from thirty to forty feet wide, clear as the clearest crystal and absolutely pure. The beautiful stream swarms with brook trout. I saw at least a hundred of them darting like tiny bits of animated sunshine through the water when I was there last Sunday. This spring alone would abundantly supply 100,000 people; and there is another within a few hundred yards that flows 3,000,000 gallons a day. The volume and temperature of the water never vary winter or summer, in rainy season or in drouth. In addition to these wonderful fountains, there are lithia, chalybeate and other mineral springs on the company's land and elsewhere about the town."

"Well, Colonel," I said, "you almost persuade me to set out forthwith for Waynesboro. You certainly paint a rosy future for the place."

"My boy, it would be a good thing for you if you were not only almost, but wholly, persuaded to drive your pegs down there. What more could the most insatiate city-builders ask or wish? Mountains, solid mountains, of the finest steel-making ore, one bed of it five miles long by two miles wide; exhaustless deposits of limestone for fluxing; nearness to three great coking fields; magnificent forests of timber; the finest water supply on the continent; a rich and fertile region, producing

bounteously all the grains, grasses, fruits and vegetables most valuable for food for man and beast, a climate so glorious and healthful, that the whole neighborhood is dotted with sanitariums; abundance of everything necessary to maintain an immense hive of population; great markets easily accessible, and unsurpassable railroad facilities. If Waynesboro, with all its vast wealth of resources, lay on the line of the Northern Pacific, the Manitoba or the Rock Island Railroad, either company would spend, if needed, \$500,000 a year in advertising it and pushing it. On any one of the great Northwestern railways it would be a city of 50,000 people within two or three years. To build a city nowadays, remember you only need natural advantages, money and advertising. From what I know of Mr. Ingalls, the new president of the Chesapeake & Ohio Railroad, I am satisfied it cannot be long till he will put his powerful shoulder to the wheel of the young city's progress, and embellish every folder, circular, map and time-card of his great road with glowing pictures of Waynesboro and its boom. But, my dear fellow, I've talked you to death and myself hoarse, without telling you half the riches and beauties of this new candidate for metropolitan honors. Let's take another tonic. What will you have?"

The usual ceremonies were gone through, and then, saying: "I'm glad to have met you; I must be off now to a half dozen receptions," the Colonel shook hands with me, said a cordial good-bye, and rushed to his room to array himself for the social whirl. I think you will find even my imperfect report of his lightning talk of interest.

R. P. S.

A Strong Endorsement of Mr. Adams' Articles on Pyrites Ores.

YORKVILLE, S. C., Feb. 8, 1890.

Editor Manufacturers' Record:

The first and second papers of Mr. W. H. Adams, M. E., respecting the production of sulphuric acid from pyrites, I have read with exceeding interest, and hasten to thank you for securing such invaluable contributions from one so fully and accurately informed. Having spent a number of years in practical work at the sulphuric acid works of Freiberg, Saxony, and at the various Hartz mountain works in Prussia, and on my return to the United States having observed closely the operations of Northern establishments of the same general character, I came to this section of the South some two years since to ascertain whether pyritic ores might not be found in sufficient quantities to warrant the erection of one or more extensive plants for the manufacture of chamber acid in the immediate section of this important agricultural district, which annually consumes many thousand tons of acid phosphate. My investigations have satisfied me that within five miles of the several railroads that traverse the Piedmont section of the two Carolinas there are enough pyrites sufficiently rich in sulphur, aside from precious metal and copper content, to furnish material to half dozen large acid-making establishments, and to make a saving to the farmers of this belt of many thousands of dollars annually, while paying a handsome profit upon the capital employed. You are entitled to the thanks of every farmer, every mine owner and every citizen, not only of the Carolinas, but of all on both sides of the Alleghany mountains, from Virginia to the Gulf States, for securing these articles from Mr. Adams and giving them to the public through the columns of your valuable paper.

J. G. McNULTY, M. E.

Why not subscribe for the MANUFACTURERS' RECORD? Price \$4 per year or six months for \$2.

SOUTH CAROLINA ORES.

Fine Iron Ores in the Palmetto State.

[Spec. correspond'ce MANUFACTURERS' RECORD.]

NANNY'S MOUNTAIN,
YORK COUNTY, S. C., Feb. 6, 1890.

The great iron ore belt of the section described in recent letters has one of its most noteworthy developments in this mountain and the country immediately surrounding it. Topographically speaking, Nanny's mountain is an upheaval containing some 400 acres, which, having been forced through the high ridges that are virtually its foothills, rises some 250 feet above them, its west side presenting a gentle slope, its east a precipitous descent, while its crest is quite narrow. It is covered from base to summit with tall trees—pine, oak, hickory and chestnut, the latter apparently the most numerous. It occupies the center of Bethel township, in which are many of the best lands and most prosperous farmers of York county. It is ten miles by dirt road from Yorkville, and five and a-half miles in an air line from the nearest point on the "three C's" Railroad. From its summit in every direction beautiful landscapes are to be seen, and on a clear day the spires of Charlotte, twenty miles distant in an east by north direction, are plainly discerned without a glass. The surrounding country is broken but not rugged. Neat farmhouses, smooth, well-tilled fields comprising many broad acres, patches of forests, some of pines, others of hardwoods, the gleaming waters of Allison and other creeks, and in the distance the dark blue lines of King's and Crowder's mountains present natural pictures tempting to artists and charming to all who enjoy landscape effects.

But to practical eyes and minds that which is beneath the two roots of this mountain is of more interest than the beautiful surroundings, for here are solid masses of iron ores of more than usual purity in quantities sufficient to supply many large furnaces with material for a very long time. The mountain proper is fully three-quarters of a mile long, but the ore extends beyond it into the foothills that are included in the 400 acres. In them are two distinct bodies of iron ores, brown and red hematites, of compact and porous varieties. The general course of these formations is north and south. They have been traced from Allison's creek to Crowder creek, a distance of four and a-half miles, but the development thus far has been on the mountain or at its base. In these places the ore bodies are well defined. On the crest of the mountain are bold outcroppings with a dip of 60 degrees to the east. Because of its cliff-like face the eastern side affords numerous excellent tunnel sites for the economical development of the ore bodies and for drainage to the depth of 225 feet. At both the north and south ends of the mountain drifts can be opened directly into the ore body. On the southern end it has already been determined that the ore body is at least 200 feet wide. Immediately on the crest, midway between the extreme points, a shaft has been opened to the depth of 33 feet, and cross-cuts have been driven 50 feet at right angles to the course of the formation, exposing the ore in enormous quantities. Two hundred yards north of this point surface openings have been made, exposing very large quantities of very high grade compact ore. The northern end of the mountain terminates at Beaver-Dam creek. From thence north the tract is locally known as "the old ore bank." From this most of the ore was taken that for many years before the American Revolution supplied the two charcoal furnaces which were destroyed by a detachment from Cornwallis's army, commanded by Col. Tarleton, which made a

raid upon them for that purpose a few days before the battle of King's Mountain. In those days these ores were divided into two grades. The hard went to the upper furnace, and the iron made from it was used for pot ware and ordinary castings. The higher grade ores were worked at the lower furnace, in connection with which were small forges and trip hammer shops. Pieces of pig metal, pot ware and other things found in the debris of these old works show the excellence of the metal produced. In the drug store of Dr. Kuykendal, at Yorkville, is an old iron swivel gun of an inch and a-half bore that was cast there. When news reached the works that the British were approaching, some of the men mounted it on a stump, expecting to command with it the narrow defile through which they thought the enemy would come. But they soon found the British had taken another route, and were about to strike their rear, whereupon they threw the swivel into Allison's creek, and there it remained until about forty years since, when it was fished out, carried to Yorkville, and used for firing salutes on great occasions. The last time it was used patriotism required an extraordinary noise, the gun was heavily loaded, and when discharged the whole muzzle was blown off. Since then its strength has been tested by striking it repeatedly with a heavy sledge wielded by a strong man. The marks on the fractured edge show that it is as tough and malleable as any iron ever cast in a charcoal furnace.

Many analyses of these ores have been made. One, by Prof. Ricketts, of the School of Mines of Columbia College, is interesting because it is an analysis of specimens of ores of every grade found here carefully selected to determine their actual average. It resulted as follows:

Metallic	Iron.	Sulphur.	Silica.	Phosphorus.	Titanium.
55.46	.18	3.63	.3	0	

Another of medium grades returned by Major C. C. McPhail, of the Richmond & Danville Railroad Co., was:

Metallic	Iron.	Sulphur.	Silica.	Phosphorus.	Titanium.
57.47	Trace.	9.39	.2	0	

An analysis of the high grade ores, made by Prof. Riotti, of the New York Metallurgical Works, gave—

Metallic	Iron.	Sulphur.	Silica.	Phosphorus.	Titanium.
65	0	4	Trace.	0	

These three analyses are confirmed by numerous others made by the above-named and other analytical chemists, and serve to show the superiority of these ores, while a walk over the mountain and an examination of the outcrop and of the workings reveals the greatness of these ore bodies. This property is owned by local capitalists who hold it in anticipation of the construction of furnaces at Blacksburg or some other near point on the three C's railroad, when these soft ores will be needed for admixture with the hard magnetic ores that abound in that vicinity. This tract was a royal grant to the colonial ancestor of the late General D. H. Hill, who was himself born in Bethel township. The first iron furnaces then were built and operated by ancestors of his name, and the property has descended through several generations of that family, but has now been sold to others.

Before the ores can be economically used a railroad track must be laid from the mountain to the "three C's," but this will necessarily follow close upon the great development which was the subject of last week's letter.

THE Pine Bluff (Ark.) Press-Eagle issues an excellent trade edition in its issue of February 1. It is a comprehensive review and analysis of Pine Bluff and surrounding country, such as the business man, banker or emigrant would read with interest.

MIDDLESBOROUGH, KY.

By C. R. Boyd, in Engineering and Mining Journal.

Knowing the absolute distaste of the readers of the Engineering and Mining Journal for anything, in statement, that may appear extravagant, due care has been exercised, I trust, in the preparation of the following lines, to exclude everything in description not thoroughly warranted by the condition of affairs in and around Middlesborough, Ky.

After what I conceive to have been an exhaustive study of the situation, it would seem that this place owes its existence rather to a correct interpretation of all the relations growing out of the valuable character of the physical geography of this region than to that spirit of irresponsible speculation so characteristic of the age.

That, in new places of so great phenomenal growth, speculation is rife among certain classes, is not to be wondered at, and neither will an impartial and candid investigation of all the conditions here fail to impress one with the high aims and fine judgment of those gentlemen who projected this movement.

With careful discrimination the propositions of various companies and individuals of high commercial standing are being accepted as rapidly as due circumspection will permit to place here plants of nearly every description of manufacturing enterprise. The utmost care is employed to see that no one undertakes more than he is able to perform; and that nothing but the best approved systems are adopted in everything.

Out of the many millions offering, \$15,000,000 have thus far been accepted since the 14th day of October last, the date of the birth of the town, about which time, also, the railways which connect Middlesborough with all existing systems of transportation were completed.

Phenomenal in themselves, these facts are among the best practical proofs of the existence here of those resources upon which this entire movement is based.

The site of Middlesborough is near the junction of the three States of Virginia, Kentucky and Tennessee with the Cumberland Mountain, at a point where that mountain is most heavily charged with its stores of coking coals, iron ores and limestone.

It is 1,050 feet above sea level, in a plain on the south margin of the great plateau of the Cumberland, on the banks of a large affluent of Cumberland river. Its limits extend practically from Cumberland Gap westward 6 miles, with a width of 3½ to 4 miles north and south. The latitude of the place is 36 degrees 40 minutes north, and longitude 6 degrees 40 minutes west from Washington city.

Dillwyn Springs, in the same property, is "just over the Gap" in Virginia and Tennessee.

Middlesborough is, therefore, about 415 miles air line west from tidewater. It is midway between New York city and New Orleans, being less than 650 miles from either place. Describing a circle around it, with a radius of 475 miles, you almost cut Chicago, St. Louis, Memphis, Norfolk and Baltimore. Within a much shorter radius are the great distributing centers afforded by Cincinnati, Louisville, Nashville, Chattanooga, Birmingham, Atlanta, Richmond, Lynchburg and Knoxville, with all of which easy communication by rail is established.

Its isothermal appears now to be that of the South of France. Its average rainfall is the normal of the Middle States, secured in its regularity by the existence of boundless areas of forests, which cover the hills and mountains for quite 200 miles along the great Cumberland range; with relation to which, so thoroughly is the language of nature comprehended by those control-

MIDDLESBOROUGH,

✻ **KENTUCKY.** ✻

"The Wonder of the Age in Town Building."

.....
The Future Iron *and* Steel Center of America.

.....
THE PASSAGEWAY FOR RAILROADS BETWEEN THE WEST AND THE EAST.

.....
A SOURCE OF COKE SUPPLY FOR THE SOUTH AND WEST.

.....
THERE ARE NOW UNDER CONTRACT:

A Basic Steel and Iron Plant, daily capacity 300 tons, to cost
\$1,000,000 and to employ about 1,000 hands.

An Iron Rod Mill; A Sheet Mill; A Nail Mill.

Two Coke Iron Furnaces, 150 tons daily capacity each, and
one Charcoal Furnace.

A \$500,000 Tannery—the largest in the world

Fourteen Coal Mining Enterprises, to employ about \$2,000,000
capital.

A Dozen Wood-Working Enterprises.

A Twelve-Mile Belt Railroad.

Tile Works, Fire and Building Brick Works, and a dozen or
more other enterprises.

\$18,500,000

Already Invested in the Development of Middlesborough.

.....
Other New Industries are Being rapidly added to those already in operation and contracted for.

.....
COAL, IRON, TIMBER
AND OTHER RAW MATERIALS.

.....
DELIGHTFUL AND HEALTHFUL MOUNTAIN CLIMATE,

WHERE MALARIA AND THROAT AND LUNG TROUBLES ARE UNKNOWN.

Elevation from 1,300 to 2,400 feet above the Sea Level.

.....
SURROUNDED BY VALLEYS OF RICH AND PRODUCTIVE FARM LANDS.

.....
SEND FOR CIRCULARS, PROSPECTUS, MAPS, ETC., TO

MIDDLESBOROUGH TOWN COMPANY,
MIDDLESBOROUGH, KY.

The NORTH CAROLINA STEEL AND IRON COMPANY, WORKS--GREENSBORO, N. C.

Iron Mines--Chatham and Moore Counties, N. C.

This company starts out with the most flattering prospects of any company in the South. It has been organized for the manufacture of Bessemer Pig Iron and Steel. It owns large bodies of high-grade Bessemer, Mill and Foundry Iron Ores, and has enough **Ore in sight to supply 1,000 tons a day for fifty years.**

Coke will be brought from Eastern Kentucky by the Western North Carolina Railroad, or from Virginia by the Norfolk & Western and the Cape Fear & Yadkin Valley, which two roads will within a year connect at Mt. Airy.

The company has secured the famous "Ore Hill" and other iron ore lands amounting to some 2,000 acres in Chatham and Moore counties, N. C., on the line of the Cape Fear & Yadkin Valley Railroad, 40 miles from Greensboro; other magnetic iron ore lands in Western North Carolina, ample limestone 35 miles from Greensboro, on line of Cape Fear & Yadkin Valley Railroad, besides other franchises and about 2,000 acres of land in and around the City of Greensboro, which is to be laid off in Streets, Building Lots, Manufacturing Sites and Parks.

The company will at once proceed to erect at Greensboro a 150-ton daily capacity iron furnace plant for the manufacture of Bessemer pig iron, to be followed by others, with a steel plant and rolling mills for making steel rails; these plants to be at Greensboro. The company will foster and encourage all kinds of industries, and will make Greensboro a large manufacturing city, because, situated as it is, with its railroad connections, making it accessible to large bodies of the best kind of Bessemer ores, lime-

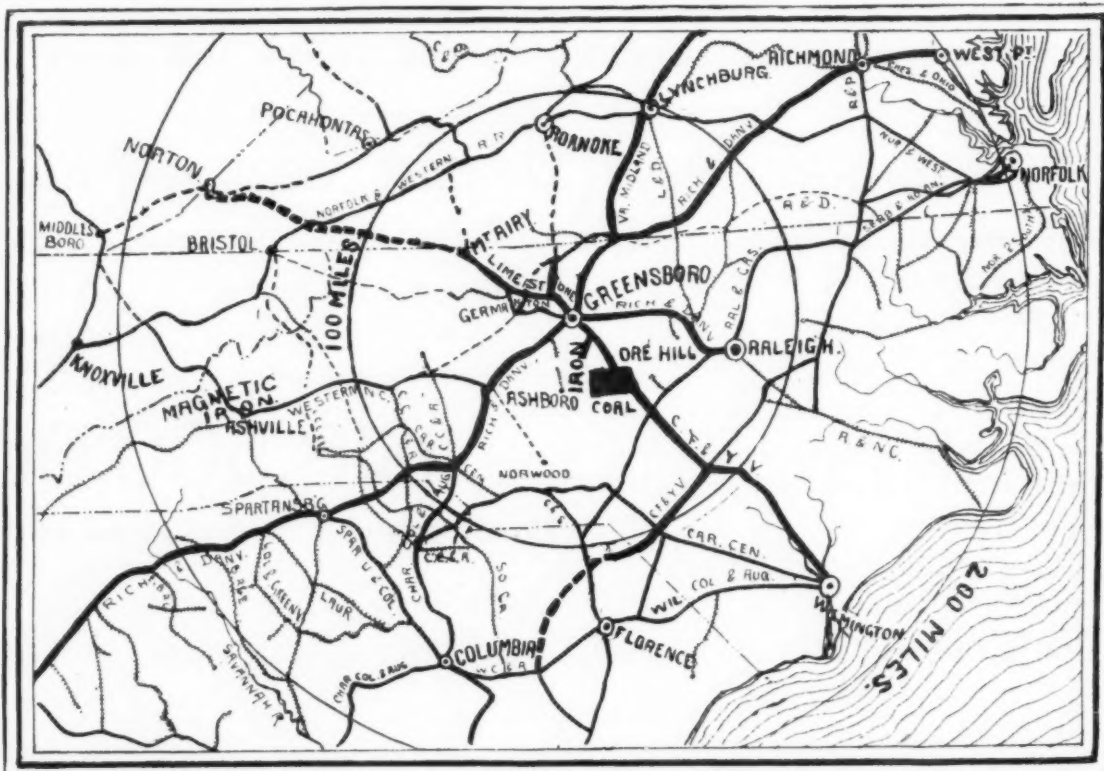
stone and coke, it is estimated that Bessemer pig can be made here at \$8 per ton. Iron has been made from these "Ore Hill" ores ever since before the Revolutionary war. Over 25,000 tons of charcoal pig have been made from these ores.

The Confederate government appropriated several millions of dollars towards making these iron ores available for war purposes, and the work on them was only stopped by the close of the war. The ores consist of brown hematites that average 56 per cent., red hematites that average over 60 per cent., and magnetites that average about 60 per cent., all of which are practically free from phosphorus and are low in silica, besides the famous black band ores.

The average run of pig made at the "Ore Hill" furnace in April, 1865, was 63 per cent., which shows what the ores will do.

These properties have been favorably reported on by such men as Prof. Emmons, Commodore Wilkes, Prof. Genth, Prof. Shaffer, Prof. Kerr, Prof. Wilber, George G. Francis, M. E., S. A. Richards, Smith Newman, Thos. P. Williams and many others, and from working an analyses of the ores show them to be in large bodies and high grade pure ores, from which to make high grade pig metal and steel.

This much for the ores. This company is located at the prosperous City of Greensboro, with all its various advantages, and is backed by the fostering care of the Richmond & Danville and the Cape Fear & Yadkin Valley Railroads, and officered by men of thorough business experience.



MAP SHOWING THE LOCATION OF GREENSBORO AND ITS RELATIVE POSITION AS TO ORES, COKE, LIMESTONE, RAILROAD AND WATER TRANSPORTATION.

Analyses of the Ores.

	BROWN ORES.		RED ORES.		MAGNETIC ORES.	
Metallic Iron.....	57.41%	58.67%	67.48%	68.74%	56.00%	64.00%
Phosphorus.....	none.	none.	none.	none.	none.	none.
Silica.....	1.42	3.79	2.10	1.40	4.25	3.10
Sulphur.....	none.	0.44	trace.	trace.	none.	none.
Titanium.....	.....	.....	.....	.....	none.	none.

Cost of Making Bessemer Pig Iron at Greensboro, N. C.

Mining 1 1/2 tons 60% ore at 50 cts. per ton	\$.83
Freight 1 1/2 tons 60% ore, 40 miles, at 3/4 c. per ton per mile .....	.50
Coke, 1 1/4 tons, at \$1.65 f. o. b. at Pocahontas	2.07
Freight 1 1/4 tons coke, 245 miles, at 1/2 c. per ton per mile. .	1.53
Limestone 25c. Labor \$1.00.....	1.25
Maintenance 50c. Repairs 50c.....	1.00
Interest 25c. Salaries 50c.....	.75
Total cost ton of pig iron.....	\$7.93

Bessemer pig iron can be made here at these figures (\$7.93 a ton) and there is no other place in America where it can be produced at a lower cost; but even if calculations be based on a cost of \$10 a ton, the profits would be more than satisfactory, whether the iron be shipped North or be manufactured into steel rails here, as is intended.

Besides this, "The North Carolina Steel and Iron Co." own about **2,000 acres of land in Greensboro**, that they will lay off into Streets, Lots, Manufacturing Sites and Parks. This land was secured at very low figures, and inside of a year it will be worth more than the entire capital stock of the company, without any real estate booming.

GREENSBORO is now a prosperous town of 7,000 inhabitants, and has all modern improvements and many manufacturing enterprises.

The North Carolina Steel and Iron Co.

OFFERS A PART OF ITS

\$1,000,000 Capital Stock at Par.

BOOKS OF SUBSCRIPTION ARE OPEN AT

Davis & Wiley Bank, Salisbury, N. C.

The National Bank of Greensboro, Greensboro, N. C.

* OFFICERS. *

President,	-	-	-	-	JAMES A. ODELL.
Vice-President,	-	-	-	-	JULIAN S. CARR.
General Manager,	-	-	-	-	J. J. NEWMAN.
Secretary and Treasurer,	-	-	-	-	SAM'L H. WILEY.
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Executive Committee.

J. A. ODELL.	A. B. ANDREWS.	J. A. GRAY.
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SEND FOR PROSPECTUS.

200,000,000 TONS OF BROWN IRON ORE

IN SIGHT AT

BLUFFTON,

HIGH, HEALTHY AND HONEST.

GOOD PEOPLE AND GOOD WATER.

Cherokee County, Ala.

LOCATED UPON THE ALABAMA DIVISION OF THE EAST TENN. VA. & GA. RY. SYSTEM.

It is impossible to describe by words the enormous quantity of iron ore that is in sight on the land of this company. Said a prominent railroad man of the South: "I could not believe your statement as to the quantity, (200,000,000 tons in sight), but now that I have seen your ore deposits, I wonder how you put so low an estimate on them."

Prof. Robinson, of Bowdoin College, Brunswick, Maine, says: "I found at Bluffton iron ore in abundance, partly in solid cliff masses containing hundreds of thousands of tons, and partly in the form of gravel and small boulders lying in great banks similar in appearance to the gravel banks of New England. Whether there was as much of the gravel as of the bluff ore I could hardly judge, but it was very clear that the quantities of both were simply enormous."

G. S. Patterson, mining engineer, of Anniston, Ala., reports: "The amount of ore in sight was certainly beyond my expectation, though I was prepared to find a large deposit. The Bluff, as it is called, is a solid mass of ore on the side of a mountain, easily approachable, and can be mined cheaper than at any point in Alabama or Georgia, with which I am familiar."

Mr. Wm. H. Edmonds, of the Manufacturers' Record, says: "As to

the quantity of ore here, I don't suppose that all the furnaces in Alabama could use it up in a lifetime."—See Manufacturers' Record May 18, 1889 article entitled "BILL ARP AND BLUFFTON."

Ore can be delivered at furnaces built here at a cost not exceeding 50 cents per ton.

With high grade ores, analyzing over 50 per cent. metallic iron, delivered at the furnace at the above-named price, is there any possibility of such a place as Bluffton not being able to produce iron at figures which will yield a profit despite the dullest of dull times?

Prof. J. H. Pratt, of Birmingham, Ala., reports on samples selected from our property by Mr. Edmonds and Mr. G. S. Patterson as follows:

The sample of brown iron ore, marked "Bluff Ore," contains—	The sample marked "Gravel Ore" contains—
Metallic iron, - - 52.37 per cent.	Metallic iron, - - 53.23 per cent.
Phosphorus, - - 0.782 "	Phosphorus, - - 0.931 "
Silica, - - 14.60 "	Silica, - - 6.25 "
Water combined, - 8.10 "	Water combined, - 10.20 "
Moisture at 100° C - 2.50 "	Moisture at 100° C - 1.68 "

LARGEST DEPOSIT OF IRON

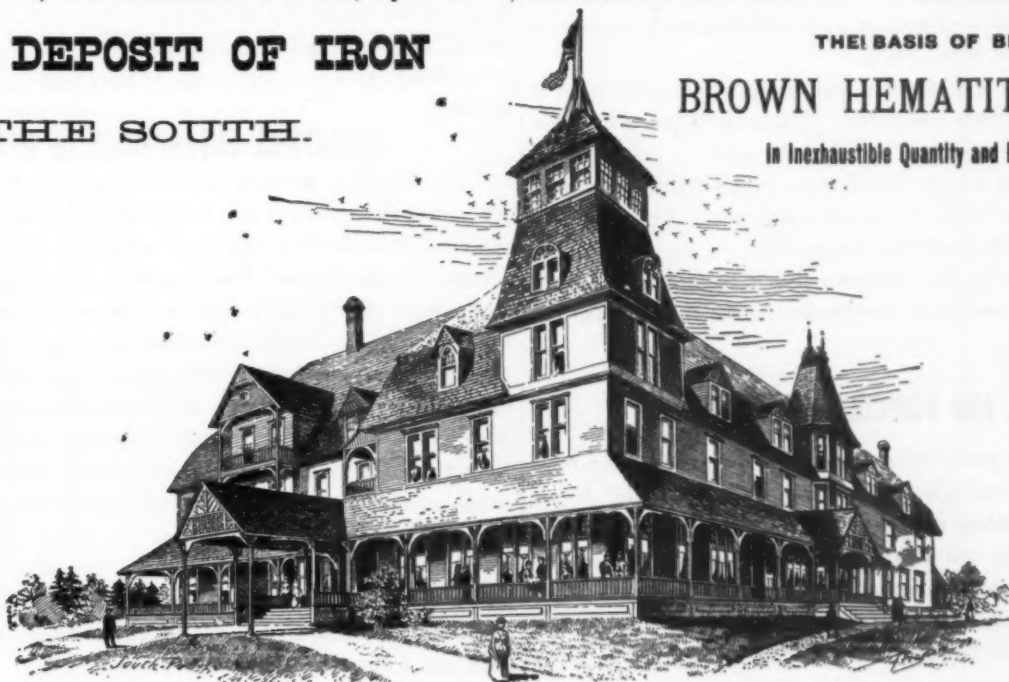
IN THE SOUTH.

THE BASIS OF BLUFFTON:

BROWN HEMATITE IRON ORE

In inexhaustible Quantity and Excellent Quality.

Ore can be delivered at furnaces built here at a cost not exceeding 50 cents per ton.



THE SIGNAL—NOW OPEN AT BLUFFTON.

Located on the Selma Division of the East Tennessee, Virginia & Georgia Railway, midway between Rome and Anniston, and only two miles and three-fourths from the East & West Railroad, of Alabama.

FREE MANUFACTURING SITES.

Rich Manganese Deposit.

There are several very large and rich outcroppings of Manganese Ore on the company's property, and the deposits have been examined by experts and pronounced exceedingly valuable. Specimens have been sent to various steel works in Pennsylvania, and the result is a large inquiry about the ore. From present development can be seen several hundred tons of this ore. There is always a ready market for manganese, and it is quoted at \$18 to 20 per ton in Pittsburgh and Chicago. More extensive work will be done on these deposits within a very short time, as the banks are easily accessible. Shipments will soon be made.

OTHER RESOURCES.

Fire Clay and Brick Clay—Yellow Ochre.

On this property are large deposits of fire clay, which has stood the highest test. Shipments have been made to Chattanooga, Tenn., and it is pronounced a superior quality. A fire brick works could be established here that would prove extremely profitable.

In brick clay there is an inexhaustible quantity, with an abundance of water running through the clay land. Brick manufacturing here would pay handsomely, and the company would lease the clay beds for a term of years at a very low royalty.

The four charcoal pig-iron furnaces surrounding this property are nearly as valuable to this place as if they were located on the land of the Bluffton Company. The pig iron manufactured by them could be bought and utilized here for every kind of manufactured iron. They are so near that freight on the raw material would be comparatively nothing. Surrounding us, as these furnaces do, it makes Bluffton a centre.

SEND FOR PROSPECTUS. ADDRESS

Bluffton Land, Ore & Furnace Company, Bluffton, Ala.

FACTS ABOUT FLORENCE.

LOCATION.

Florence is in North Alabama, near the Tennessee line, on the Tennessee river, which is navigable here for large steamers. It is on the Memphis & Charleston Railroad, and the Nashville & Florence branch of the Louisville & Nashville Road.

AGGREGATE OF ADVANTAGES.

There are many places in the South possessing the advantages of a good climate, healthfulness, natural resources and manufacturing capabilities more happily combined and in a higher degree than can be found in any other part of the country. It is believed, however, that at no point in the South, and hence nowhere in America can there be found an aggregate of so many unsurpassed advantages and attractions as exist at Florence.

IRON AND COTTON MANUFACTURING.

Florence can make iron as cheaply as any place in Alabama. It has facilities for the manufacture also of cotton goods equal to those of any other place. Anything that uses wood as a raw material can be made here at as low a cost as anywhere in the South.

Thousands of acres of iron ore of a high grade within a few miles of Florence are owned by Florence companies. Limestone is quarried within the town limits. There is enough of it to last for ages.

Cotton mills would get a large part of their supply from the country around Florence. Cypress creek furnishes water power and mill sites enough to make Florence the Lowell of the South.

North of Florence, and up the Tennessee river, there are large areas of timber, embracing a wide variety of hardwoods—forests that the axe has never touched.

COMMERCIAL AND AGRICULTURAL FACILITIES.

Besides its industrial possibilities, Florence is a point of great commercial importance, and is becoming the center of an extensive mercantile business. It has the advantage of both rail and river transportation and of competing railroads. Several additional railroads are now under construction to open up new trade connections to Florence.

Florence is surrounded by a wide extent of fertile and productive country, as well adapted for farming, stock raising, fruit growing, truck farming, dairying, &c., as any in the world. Further, it has a climate that is delightful the year round. Its health record cannot be surpassed. It has no malaria. In fact, people who live here enjoy a remarkable exemption from ailments of every sort. It has an abundance of the purest water.

BEAUTY OF LOCATION.

For beauty of location Florence is without a peer. The Tennessee river at this point is as romantic and beautiful as the Hudson. The rolling character of the country, the slopes and hills and alternating valleys furnish a picture to charm an artist's eye. The lovely Cypress creek, a deep and rapid stream emptying into the river just below the town, presents at every turn in its tortuous course a scene of entrancing beauty. The views from some of the higher hills are as fair as the eyes of man ever rested on.

Limited space allows here only the briefest summary of a very few of the more important facts about Florence. For more detailed information write to either one of the following companies. Or better still, come down and see for yourself. Investigation is all that Florence asks or needs.

Lauderdale Manufacturing Co. Florence Cotton and Iron Co.

Florence Investment Co.

Florence Railroad and Improvement Co.

GROWTH.

Florence is making more rapid progress, proportionately, than any other town in America. This is a strong statement but it is true. And its growth is on a solid and permanent basis.

SOLID GROWTH.

Florence is not undergoing any wild real estate boom. Its managers are not seeking to advance real estate prices. It is not their plan to get a quick return for the money they have invested, by the rapid sale of lots at unnatural prices. It is their aim to first build up a town, to locate factories and secure a permanent population, when land will have an actual value and sell at prices from which there will not be a subsequent disastrous reaction. At present real estate is much lower in price than in any other town in the South that has made half the progress Florence has made.

THIRTY NEW ENTERPRISES.

Within the last 12 or 15 months over 30 new industrial enterprises have been located at Florence, with an aggregate cash capital of about \$5,000,000. This remarkable growth is the result of efforts to induce people to simply investigate the attractions of Florence. Investigation and comparison with other places, on the part of any who are looking for a place in the South to locate, will in nearly every case result in the selection of Florence.

INDUSTRIAL ENTERPRISES IN OPERATION.

The following are some of the industries in Florence. Some of these are in operation; others are nearly ready for work and others have but recently commenced work on their buildings: One of the largest and best furnaces in the United States now in blast, and another under construction; a stove factory; a hardware company, with a capital of \$300,000, manufacturing fine building hardware, &c., the only factory of the kind in the South; a wagon factory, with capital of \$150,000; agricultural implement works; handle factory; woodenware factory; sash, door and blind factories; a cedar bucket factory; a pump factory; planing mills; a factory to make wooden butter plates such as grocers use; a flour mill; a cotton mill in operation, and a \$500,000 mill building and others projected; a jeans factory; a gingham factory; a woolen mill; a cotton gin; a marble company; a roofing and paint company; a shoe factory; a suspender factory; a compress, packet and ferry company; building and loan companies; a canning factory; brick factories; a dummy railroad company, and a number of other enterprises.

\$15,000,000 INVESTED.

The aggregate capital of the industrial, mercantile and development enterprises in Florence exceeds \$15,000,000.

A year ago the population of Florence was 2,000. It is now about 10,000.

There are more than 1,000 carpenters at work in Florence but they can't build houses fast enough to keep up with the increase in population.

INVESTIGATION AND INVESTMENT.

A number of the foremost capitalists and iron and cotton manufacturers, and others, of Philadelphia, Boston and other Eastern cities, after a thorough personal investigation, have just made heavy investments aggregating several million dollars in Florence.

Florence, Ala.

Morristown, Tenn.

The Plateau City of the Great Valley of East Tennessee

is beautifully located on a plateau of Bay's Mountain, about equi-distant from the Cumberland Mountains which bound East Tennessee on the northwest, and the Alleghany Mountains which bound it on the southeast, and is 300 feet above Holston River, which washes the north base of the plateau three miles from the city. Its mean elevation above sea level is about 1,350 feet, while the hills and mountains immediately surrounding it rise to an altitude of 1,935 feet, affording views of surprising extent and grandeur, and at the same time so modifying the temperature that the thermometer rarely registers higher than 90° in summer or lower than 10° in winter. Its drainage is admirable, and malaria is unknown. It has nearly trebled its population since 1880, having now about 4,000 inhabitants. It is the commercial and business center of the richest and most extensive agricultural district in the State, where all the cereals and all the grasses

and tobacco are grown to perfection, and where fruits and berries abound. It has hundreds of thousands of acres of uncultured forests accessible to it, abounding in Poplar, Pine, Hemlock, six varieties of Oak, Chestnut, Hickory, Cedar, Maple, Birch, Beech, Sycamore, Gum, Locust, Laurel, Buckeye, Mulberry, Ash, Cherry and Walnut. The Celebrated East Tennessee Marble underlies a part of the city, and it is surrounded with rich deposits of Iron Ore, Manganese Ore, Zinc Ore and Lead Ore. It has been said by one who has made a study of the subject, that within a radius of 50 miles around Morristown every variety of iron ore in the United States can be duplicated, and a coke can be made equal to Connellsville coke. We claim without hesitation that Morristown has in its immediate vicinity richer mineral ores, and a greater variety of them, than any city on the Continent.



MORRISTOWN

has Railroad Facilities equal to any city between Lynchburg and Chattanooga, and they will be speedily increased by the completion of the Carolina, Cumberland Gap & Chicago Railway making the shortest possible railway route between the great cities on the Ohio River, Cincinnati and Louisville, and the seaboard cities, Charleston, Port Royal and Savannah. Besides, the Baltimore & Ohio Railway will probably extend a branch to it from Lexington, Va., and the Tennessee Midland will in all probability be built to Morristown, and a line be built giving direct connection with Atlanta.



MAP SHOWING RELATION OF MORRISTOWN TO THE COUNTRY AT LARGE.



MORRISTOWN

has a citizenship composed almost exclusively of native born Americans. It boasts a splendid system of Graded Schools, Five Commodious Brick Churches, the finest Courthouse in Upper East Tennessee, an Opera House that will seat 600 people, two Solid Well Managed Banks, a flourishing Building and Loan Association, two of the Largest Commercial Flouring Mills in the South, Stove Works, an Agricultural Implement Factory, two Wood-working Factories, a Tobacco Factory, a Carriage and Wagon Factory, and many industries of lesser note.



It is lighted with electricity, and has water works under contract, and is now inaugurating a system of street railways. Its climatic advantages, its unsurpassed record for healthfulness, its abundance of pure water, its central and beautiful location, its transportation facilities, its fruitful agricultural surroundings, its contiguity to rich and exhaustless fields of iron, manganese, zinc and lead ores, marble, coal and timber, mark it as a place destined to be the commercial, manufacturing and railway emporium of Upper East Tennessee, Western North Carolina and Southeastern Kentucky.

To expedite this destiny the city authorities have wisely exempted from taxation for ten years all manufacturing establishments that will give employment to fifteen or more persons, and the county authorities have done the like, so that manufacturing establishments will be exempt from all taxation for ten years, except the merely nominal tax for State purposes. There has been no "boom" or inflation of prices at Morristown, and, as it possesses within itself and contiguous to it almost every element of wealth, it now presents the most inviting field for investment of any city in the South.

Persons who may desire fuller information can obtain it by calling on or addressing

MONTVUE LAND COMPANY

POSTOFFICE BUILDING,—MORRISTOWN, TENNESSEE.

NEW DECATUR,

ALABAMA.

The New Industrial City of the Great Tennessee Valley.

LOCATION.—In Morgan County, in the Cereal Belt of Northern Alabama, which includes the great valley of the East Tennessee river. It is at the threshold of Alabama, hence it is known as the Gateway City. It adjoins the old town of Decatur, on part of a tract of 5,451 acres of land purchased by The Decatur Land, Improvement & Furnace Company in 1887 for the purpose of laying out and building up a new industrial city.

RAILROADS.—It is at the junction of two great trunk lines, the Louisville & Nashville system running north and south and the Memphis & Charleston (part of the East Tennessee, Virginia & Georgia system) running east and west, affording direct communication with St. Louis, Evansville, Louisville, Cincinnati and all points further north, west and east, all the cities on the Atlantic Seaboard (north and south), Mobile, New Orleans and other points on the Gulf Coast, also Memphis and all points west of the Mississippi. The connections therefore are complete in every direction. A new road, the Decatur, Chesapeake & New Orleans R. R., intended as a connection with the Chesapeake & Ohio system, is now being constructed in a northeasterly direction, which will give New Decatur a new eastern outlet. The south end of the track is within 25 miles of New Decatur, where grounds for shops and freight yards have been already donated to the new road. The Rome & Decatur R. R., of Georgia, will be extended to New Decatur shortly, being now within 50 miles of that point. This will give a direct southeastern outlet to Brunswick, Savannah and other Southern ports on the Atlantic Seaboard.

RIVER TRANSPORTATION.—The improvements in the Tennessee river at Muscle Shoals, below New Decatur, upon which several millions of dollars and many years of labor have been expended by the government, are practically completed. The first steamer, the "A. C. Conn," passed through the Shoals on November 12th 1889, on her way from Green Bay, Wis., to Chattanooga. The canals will be formally opened in May, when the Tennessee river will be opened to navigation from Knoxville, Tenn., to its mouth at Paducah, Ky., on the Ohio river (728 miles), with 6 feet of water from New Decatur to the Ohio. Paducah is 50 miles above the junction of the Ohio and Mississippi rivers, at Cairo. The Tennessee river drains one of the richest timber, iron, coal, cotton and agricul-

tural countries in the world. New Decatur will have an immense advantage over most of the industrial cities of the New South in being located on this great water highway.

POPULATION.—The population of old Decatur was about 1,200 when the new town was laid out in 1887, that of the two towns combined is now not far from 10,000, largely made up of manufacturers and mechanics.

CLIMATE.—New Decatur is about 700 feet above sea-level, on an elevated plateau free from malarial influences. Extremes of heat and cold are unknown. The air is delightfully pure, breezes are constantly in motion, and the nights are always cool. It is essentially a healthy place, and its climate renders it equally suitable for a summer or a winter resort.

PROGRESS.—The city has a complete system of sewerage, drainage and water supply, electric lights and gas, 60 miles of streets well graded and curbed and lined with young shade trees, a park system of 100 acres, 5 miles of street railways and a Union Railway Depot. The Land Company has expended over three-quarters of a million in cash in improvements, and donated 153 acres to industrial enterprises. A \$20,000 schoolhouse and three churches are nearly completed. The "Tavern" is one of the finest hotels in the South, built and furnished at a cost of \$140,000. There are 16 important industrial plants, exclusive of brick yards, lumber yards, saw mills and sash, door and blind factories, which are numerous. The principal plants are the Louisville & Nashville R. R. Shops, covering 58 acres; the United States Rolling Stock Company's works, covering 50 acres; the Decatur Charcoal Iron Furnace, of 70 tons daily capacity, the Decatur Charcoal & Chemical works; the American Oak Tanning Extract Works; Ivens & Son's Foundry & Machine Shops; the Decatur Cotton Compress; the Decatur Car-Wheel Works, etc. Building is going on rapidly.

INDUSTRIES NEEDED.—It is intended that New Decatur shall be a city of diversified industries. There is a grand opening for the manufacture of iron, wood and cotton in all its branches. The proximity of the vast forests of oak, poplar, ash, hickory, gum and other hardwoods along the river should be a special inducement to establish all kinds of wood manufactures. Another paying industry would be truck farming. The country around Decatur is especially adapted for truck and orchard farming and stockraising.

THE DECATUR LAND, IMPROVEMENT & FURNACE COMPANY will issue in a few days a beautifully printed and illustrated book, entitled

"ON THE BANKS OF THE TENNESSEE,"

Containing a map and 100 questions briefly but fully answered, giving all necessary information about Northern Alabama and New Decatur, for free distribution.

For Maps, Pamphlets and other Information about New Decatur, address

THE DECATUR LAND, IMPROVEMENT & FURNACE CO.

NEW DECATUR, ALA.

DENISON, TEXAS.

The "Yankee" City of the Southwest,

— AND —

* GATEWAY *

— TO THE —

GREAT STATE OF TEXAS.

The City of Denison presents the Finest Opportunity of any City in the Southwest for the Investment of Capital in Large or Small Sums.

DENISON is situated in Northeastern Texas near inexhaustible beds of coal and iron, surrounded by the finest fruit lands in the world, and adjoining the INDIAN TERRITORY, which, in the nature of things, must in a few years be opened to settlement.

The growth of Denison has been a natural one, the city having reached its present size—16,800 population—in sixteen years.

The city is regularly and beautifully laid out. Railroads run from it in four different directions. The Missouri, Kansas & Texas alone does an enormous business, having 54 miles of switch track in Denison, employing 500 skilled workmen and disbursing \$150,000 a month in wages.

The first public school in the State was established here, and the city's elegant two and three story brick school buildings, surrounded by attractive grounds, are well arranged for the use of the white and colored children. Its schools are in session ten months in each year.

We have sixteen church societies, seven of which are colored.

The city is well supplied with pure water from its numerous private wells—dug in the ground—and its first-class system of water works, giving the citizens ample protection against serious loss by fire, and enabling the insurance companies to rate the city first class as to fire hazard. Rate of taxation low.

The city has four miles of street railway, with six miles now building to be operated by steam motor; has two electric light companies and a telephone plant. It has an influential New England colony, and counts among its citizens people from every State in the Union.

A large hotel, to cost \$125,000, is to be erected here this year, and a large steel plant with \$2,000,000 of capital is contemplated.

30,000 bales of cotton were shipped from Denison in 1888. 200,000 baskets of strawber-

ries and several carloads of peaches and other fruits have been shipped to market this season.

The Denison Canning Co., capitalized at \$100,000, has one of the largest canning factories in the country.

A cotton mill company with a capital of \$500,000 is building a 25,000-spindle cotton mill.

The climate of Denison is magnificent, situated nearly 800 feet above sea level. In summer it is warm, but far cooler than many cities farther North, and from 6 P. M. until after sunrise it is always cool. The city is very healthy.

The capacity of the ice factory has been increased from a daily output of 15 tons to 30.

The Denison Land & Investment Co. is prepared to give every reasonable encouragement to manufacturers, and solicit correspondence from such manufacturers as contemplate coming into the Southwest to locate.

Address all communications to

THE DENISON LAND & INVESTMENT COMPANY,

DENISON, TEXAS.

Paid-Up Capital, - - - - - \$1,200,000.

OFFICERS:

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MILTON H. FRENCH, Vice-President and General Manager.

ARTHUR L. BERRY, Secretary and Treasurer.

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J. M. FORD, Kansas City, Mo.
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B. J. DERBY, Burlington, Vermont.
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JOS. B. LINCOLN, Boston, Mass.

FORT PAYNE, Alabama.

★ COME TO ★

The NEW ENGLAND CITY of the South.

Climate Unsurpassed. Abundance of Pure Water. Drainage Excellent.

No Better Point in the Union
For Safe and Profitable Investment.

Situated on the MAIN LINE of the QUEEN & CRESCENT ROUTE, fifty-one miles Southwest of Chattanooga, and ninety-one miles North of Birmingham
Elevation is from 895 to 1,600 ft above the sea, and above fever districts.

DeKalb County is entirely free from debt; taxes light.

Most liberal encouragement given to industries of every kind.

Iron Furnace and Rolling Mill will be constructed immediately, and other industries of various kinds are under contract.

Correspondence solicited from those who contemplate coming into the South to establish any kind of manufactories.

The different industries will employ at least two thousand skilled workmen, which will secure a population of over ten

thousand, independent of the many industries contemplated.

Iron of the best quality can be manufactured at as low cost per ton as in any other locality in the South.

Coal and iron are being developed rapidly of a superior quality.

Fine timber abundant and wood-working machinery of every kind can be profitably employed at this point.

The Company is prepared to give every reasonable encouragement to manufacturers who will locate at this point.

✉ Correspondence solicited.

CAPITAL \$5,000,000.

OFFICERS.

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FORT PAYNE COAL & IRON COMPANY, Fort Payne, Ala.

Fort Payne Pushing Ahead.

[Spec. correspondence MANUFACTURERS' RECORD.]

FORT PAYNE, ALA., Feb. 3, 1890.

The New England excursion which visited this city last week was a success in every particular. It numbered two hundred persons, most of whom had from \$1,000 to \$5,000 to invest, and right sharply did they put their money into Fort Payne industries and real estate. It is estimated that the total investments will reach at least a quarter of a million dollars. A large block of the stock of the Foster Builders' Hardware Co. was sold. This stock was a great favorite among the visitors. A great deal of real estate was purchased for improvement. Within the past week contracts have been let for the building of not less than fifty houses, and there is one man in the city at the present time with \$55,000 in cash with which to construct a good class of tenement houses. It is the intention of this man to erect fifty houses with this amount of money.

The foundation for the Foster Builders' Hardware plant is almost completed. The contract for the superstructure of all the buildings has been let to D. J. Chandler, of Chattanooga. The plant, when completed, will cost about \$100,000, exclusive of the machinery.

The smoke stack of the furnace was completed last week. It is 175 feet in height, and Col. J. H. Mullins, the superintendent, hopes to be able to begin operations at the furnace early in March. The plant is one of the most complete in the whole country. Its capacity is given out at 75 tons of pig iron per day, but it is believed the product will reach at least 90 tons every 24 hours.

The fire-brick works are now in operation, and though not quite completed, an excellent quality of fine brick is being turned out. The machinery for making gas, which is to be the fuel used to burn the bricks, will not be completed for about ten days yet. A press has been put in for the manufacture of vitrified sewer-pipe, and it will be put into operation in a few days. The terra-cotta department will be started up as soon as a sufficient number of patterns can be made to render its operation profitable. A pattern maker has been diligently at work on patterns for several weeks.

Work on the mineral railroad has progressed very favorably, and the line will be entirely completed to the coal mines by the middle of the present month. This is one of the best constructed railroads in the South, and excursionists who were in the city last week complimented superintendent W. T. Carley for the excellent manner in which the work had been done. Major Carley is also the chief engineer of the road.

The grocers' excursion from Boston will arrive here on their way to California on the 7th inst. They will stop off at Fort Payne for one day.

The stove works are now running to their fullest capacity, and orders are coming in rapidly. This industry promises to be a great success.

Two of Fort Payne's enterprises have already paid dividends. The Fort Payne Investment Co. paid a dividend of 35 per cent. several weeks ago and the First National Bank paid a 4 per cent. dividend a few days ago, after having been in business only five months. The investment company will pay a second dividend inside of a month.

Another Boston excursion will be run to this city about the 15th of March.

The People's Savings Bank expects to be ready to open its doors to the public about the 15th inst. Col. J. W. Spaulding will be the president and C. H. Green, cashier.

J. M. V.

Subscribe to the MANUFACTURERS' RECORD.

Hotel Wanted.

LIBERTY, VA., Feb. 5, 1890.

Editor *Manufacturers' Record*:

The improvement in our live town of Liberty—soon to be Bedford City, with a new charter and extended limits—continues unchecked, the interest unabated. The first and best opportunity for an outside energetic man is the opening for a good hotel—not necessarily an enormous affair. That will come all in due season, for Liberty is a watering place in the summer, and a most attractive one, destined eventually to become a resort all the year round, and a comfortable, well furnished, clean, attractive house, inside and out, with a cook in the kitchen. Such a house can be kept well filled now and all the time, and can have, besides a few choice rooms to be occupied at short intervals by our Northern friends at Northern prices.

LIBERTY IMPROVEMENT CO.

The MANUFACTURERS' RECORD can strongly endorse the need for a good hotel in Liberty, and the bright future of the town.

The South River Mineral Districts.

A correspondent of the Staunton Virginian, writing from Greenville, Va., gives the following points on the iron interests of that section:

"Having read with interest the reports published in your columns by correspondents about the minerals in this section of the county, I have concluded to give to your readers a brief sketch of the mineral belt that I am familiar with along the base and upon the South mountain, or rather the Blue Ridge. In the first place, I will begin at the Kennedy property. On this there is as some as fine brown hematite iron ore as can be found anywhere, and also manganese of good quality. This property has a good show for these minerals for a distance of about seven miles.

The next property going south is the Shields Bros. It has a fine show for both manganese and iron, but has never been worked or opened.

Then still going south, we come to the celebrated Bear ore bank, owned by the Cotopaxi Furnace Co. This is a large deposit of the very best brown hematite iron ore, yielding 52 per cent. metallic iron by Prof. Fountain's report.

The next property reached is the Lofton iron ore mine, owned by the estate of Isaac Newton and the Vines Bros., and now leased to J. Ross Smith and Milton H. Lightner, two enterprising young men of this neighborhood, who will begin work at once. This is a very fine ore and yields 52 per cent. metallic iron.

The next property we come to is the Blue Bank, owned by Mrs. Juett Vines. On this property there is a good show for manganese and iron ore of good quality.

The next property is the Black rock mines, now worked by Messrs. Steele & Pelter, who are shipping a large quantity of fine ore. I do not know the analysis of it.

The next property is the Fauber manganese mines, that were worked before the war. They are not worked now.

That brings me to the Rockbridge county line, and in that county I will only name the mines as far as I know, viz: the Cold Short bank, Kelly's bank, Patterson bank, and the McClung bank. These last banks all belong to Messrs. Bell and Catlett of your city.

I will now take a east course up the South river. Above the Cotopaxi furnace, about 2½ miles, you come to the mine ore bank. There is a large deposit of iron ore and manganese on this property. It is owned by the estates of Newton and Vines, and from that tract for three miles up the river, there can be found iron ore, manganese, and some very fine specimens of

both. Prof. Fountain describes these properties in his report, and makes them very plain as being very valuable property.

Now as some people are talking about booms, why can we not have one here? The property that I have named does not extend farther south from Basic City at Waynesboro than 20 miles to the farthest, and most of all, and in fact all, but the mine bank and the property above that is in close proximity to the Shenandoah Valley Railroad, and could be worked to a great advantage. Now let us have a mining boom here, so as when the furnaces and steel plants are built at Basic City, we can supply the ore and manganese for all purposes that may be wanted, as in my humble opinion that I have named over is the richest and best mineral belt in the State of Virginia.

The Colby Ventilator and Stovepipe Thimble.

The invention herewith illustrated and described, which has demonstrated itself to be useful and meritorious, is known as the Colby combined ventilator and stovepipe thimble, and has for its purpose to provide a reliable means of removing excessive heat, smoke, steam, cooking odors, etc.

The operation of this apparatus depends chiefly on the fact that the heated air of an apartment which collects near the ceiling will freely seek its exit through any suitable opening communicating directly with a hot air or smoke flue. In the Colby ventilator advantage is taken of this well known fact, and the ventilating device is constructed and connected with the flue in



THE COLBY VENTILATOR AND STOVEPIPE THIMBLE.

such a manner that the current of heated air shall enter the flue at a point above the smoke and fire gases, and be deflected upwards so that it shall not obstruct the upward current of the smoke. The Colby ventilator is so arranged that it may be opened or closed at pleasure, and does not project into the flue and causes no obstruction whatever to the draft of the chimney. The apparatus is made in various styles and sizes, the No. 5 being the style most generally used.

This method of ventilating has been in use since 1886, and has proved itself to be entirely practicable, having given satisfactory results wherever used, fully answering its purpose and enabling architects to dispense in many cases with the separate flue for ventilating so frequently found necessary, and thus effecting a notable saving in first cost of construction.

As exhibited in the accompanying engraving, the apparatus consists of a cast iron frame set into the brick work and connecting with the flue in such a manner that no portion shall project into same but be flush with the masonry. The face (which can be made as ornamental in finish as may be desired) shall be flush with the plaster. The lower portion of the frame

is furnished with a collar for the insertion of the stovepipe. The upper portion, provided with an upwardly directed mouth, is the ventilator proper, and the face of this portion is provided with a flap, which may be opened or closed by means of the depending rod. The face of the ventilator is formed of a single plate having a series of rectangular openings, behind which falls the mechanical device for opening and shutting off the draft of the ventilator. These ventilators are equally well adapted to be placed in any situation from ceiling to floor, wherever it may be found most desirable to locate them.

A special feature of the Colby ventilator is the cam-shaped device used for holding the stove-pipe in place. It is impossible for the pipe to slip, fall or be taken out of the thimble without first pressing on the knob of the pipe holder.

In kitchens and laundries where a hood is used, it should be placed close up under the hood; otherwise it should be placed close up to the ceiling. In sitting-rooms, bed-rooms, offices, etc., it should also be placed near the ceiling, and may be opened and closed at will to relieve the rooms from an excess of hot air and gases.

In houses already built, where a stove-pipe is used, the ventilator should be adjusted so that the stove-pipe will go through it. If the pipe should be smaller or larger than the ventilator opening, a taper joint of pipe can be used.

Owing to the many improvements incorporated in this very practical device, it is far ahead of anything on the market. It is controlled by the Colby Hardware & Electric Co., 35-37 Clark street, Chicago.

Long List of New Enterprises at Laredo, Texas.

A dispatch from Laredo, Texas, under date of February 8, says: "The city council to-day made liberal donations of land to the Laredo Tannery and Shoe Factory and to the Laredo Cotton and Ginning Co., two new manufacturing concerns now under way here. Within the past month the following enterprises have been secured by the citizens of Laredo: Foundry and machine shops, cotton ginning and milling works, woolen mills, knitting mills, hosiery mill, large wool-scouring mill, electric motor street railway, tannery and shoe factory. The Board of Trade are now drawing the attention of capitalists to the opening presented here for a large rope and twine factory, the raw material being here in abundance, and a splendid market already existing. A large order has been placed at the machine shops here for the construction of machinery to extract this fibre from a plant which grows wild in this section.

The magnificent \$200,000 building block being erected by the Laredo Improvement Co., on the southeast corner of Jarvis plaza, is nearing completion, and will be occupied in a few days by business houses.

The Legg Architectural Co. of St. Louis, who had a branch office here, have advertised for bids for the construction of a three-story Masonic Temple opposite the Hotel Hamilton, which will cost, when finished, over \$30,000.

The city council has directed the mayor to secure the services of a distinguished engineer in St. Louis to make a survey and adopt a system of thorough sewerage of the city. Laredo is the first city in the State to undertake so large a work as this will be.

The imports and exports through the port of Laredo for the month of January foot up to \$1,300,000, which is the largest amount passed in one month through any Rio Grande port. This is a gain of 25 per cent. over last month, and more than 100 per cent. over the corresponding month of last year. This magnificent showing solidifies Laredo's prominence as a national and international port of entry, and as the gateway to and from the Republic of Mexico."

PIEDMONT, ALABAMA.

• Delaware's Southern City. •

IN THE VERY HEART OF BROWN IRON-ORE DISTRICT.

Full Paid Capital of the Piedmont Land & Improvement Co. \$1,250,000

Large Portion of which will be Employed Establishing Great Industrial Plants.

The following enterprises and industries are guaranteed by the **PIEDMONT LAND AND IMPROVEMENT COMPANY**, all of which are now well under way:

A 50-ton Charcoal Iron Furnace.

A large iron Rolling Mill.

A Car Wheel Works.

Three Saw Mills.

An excellent system of Water Works.

The best system of Electric Lights.

Graded and Macadamized Streets.

A \$35,000 Hotel Building.

A Bank Building, (for Bank of Piedmont),
the finest in Northern Alabama.

The Piedmont Land and Improvement Company have also closed contracts with two Eastern capitalists, who will at once erect forty dwelling houses, to cost not less than \$1,400 each, which will represent, when completed, together with the ground covered, an investment of over \$100,000.

These will be followed in the near future by the following, negotiations for several of which are now nearly completed:

Two 100-ton Coke Iron Furnaces

A Basic Steel Plant.

A Large Planing Mill.

A Carriage and Wagon Factory.

A Passenger Car Works.

A Sewer Pipe Works.

A Brick Works, and several other industries.

Such are a few of the many advantages that Piedmont offers to the manufacturer and to the investor, who are cordially invited to come and examine for themselves.

FOR ADDITIONAL INFORMATION ADDRESS

Piedmont Land & Improvement Co.
PIEDMONT, ALA.

OXFORD, N. C.

The Capital of Granville County. Situated on three railroads, to which a fourth is in process of construction.

THE COSMOPOLITAN TOWN OF THE SOUTH
Invites immigration to her hospitable borders.

A family living in Oxford educates boys and girls at home and never flees to the mountains or coast in summer to escape malaria, thus saving thousands to the head of the family.

POINTS.—It was founded in 1770 by Jesse Benton, father of Hon. Thomas H. Benton, yet it is the newest town in the State, having twice doubled its population in past 10 years.

EDUCATIONAL.—It has a large military school and two excellent female colleges, one daily and three weekly papers.

FINANCIAL.—Its taxable property is about \$2,000,000, its population 4,000. It has opera and market house, two excellent banks with ample capital.

INDUSTRIAL.—It sells eight million pounds of tobacco a year in five mammoth brick warehouses; has four extensive tobacco factories, forty or more leaf factories, two iron foundries, three carriage factories, sash and blind factory, electric-light plant, four hotels, a broom factory, steam flouring mill, cigar factory. The noted Kimball Tobacco Company, of Rochester, N. Y., after surveying the whole tobacco field, selected Oxford as a spot to locate its North Carolina business, and are about to erect a third mammoth building.

RELIGIOUS.—Four churches in its midst.

CHARITABLE.—It boasts of the Oxford Orphan Asylum, two hundred and fifty children well cared for; also lodges of Odd Fellows and Masons.

CLIMATE.—It furnishes that equable climate that delights denizens of the North. Annually hundreds come to kill quail in its adjacent fields, or seek health from its pure hilly air and mountain water. It has no chills and fever, no malaria no epidemics.

ITS BACK COUNTRY AND FUTURE.—Minerals in great richness and abundance fill the soil of Granville. Copper, iron, gold and silver abound. Capitalists from New York and Pennsylvania and elsewhere are working the mines to great advantage. Its farmers make that smooth, bright, waxy tobacco that only the generous soil of Granville vouchsafes to man—tobacco that improves, like old wine, with age, and is shipped with impunity through the humidity incident to an ocean voyage; and that caused Count Bunsen to exclaim that Granville county tobacco was "the finest on earth, free of nicotine." These tobaccos are the highest priced to be found anywhere, bringing often \$1.00 per pound in the leaf. Nestled in the hills of Granville, a very Arcadia, and ideal home among people busy, yet having hearts, awaiting with open arms the coming citizen. Riots are unknown, and there are no race problems to solve.

ACCEPTABILITY.—Oxford is only two hours from Raleigh, four hours from Richmond, Va., and five hours from Norfolk, Va.

For further information address the Secretary of the Commonwealth Club, Oxford, N. C.

WILMINGTON, NORTH CAROLINA.

This pleasant and growing city invites enterprising citizens and capitalists from all parts of the civilized world.

\$150,000 Freedom from Municipal Taxation \$150,000
Splendid Opening for Men of Push and Energy.

The City of Wilmington has made an appropriation of \$150,000 for the purpose of encouraging manufacturing.

ADVANTAGES OFFERED.

Climate favors work the entire year. Labor abundant and cheap, living economical. Freight rates are low by rail to interior points. Shipping rates by steamships and vessels low to all parts of the world.

NO BETTER POINT FOR PROFITABLE INVESTMENT.
We have the raw material in abundance.

Facts About Wilmington.

A seaport city of 25,000 population. An important naval store, cotton and lumber market. Extensive shipping interests. A secure, fresh water harbor. Depth of water on bar 18 feet at mean high water; under government supervision, being continually deepened.

Excellent terminal facilities. Four railroads in operation, two in process of construction. Surrounded by attractive summer resorts. Adjacent territory especially adapted to trucking, peach growing, vineyards and rice culture. Drainage excellent.

Health and climate unsurpassed. An all-the-year-round resort.—**THE LONG BRANCH OF THE SOUTH.**

Excellent schools and churches of all denominations. A cordial welcome extended to all good citizens and men of push and intelligence.

Three banks, with ample banking facilities. Among the manufacturing enterprises now in operation are numbered: Cotton, Pine & Lumber, Wood Working and Ice Factories, Rice, Flour and Planing Mills; Foundry, Machine Shops, Gas, Electric Light Plants, Cotton Compresses, Canned Lumber, Car and Water Works.

We invite all to come and see, and on the spot to judge for themselves. Wilmington offers excellent hotel accommodations, and a committee of its Chamber of Industry will extend to strangers seeking home and investment cordial greeting and attention.

Persons who may desire fuller information can obtain it by addressing

The Chamber of Industry, Wilmington, N. C.

PATENTS procured. Trade-Marks, &c., registered. Opinion and court cases a specialty. Correspondence solicited. **J. NOTA MCGILL, Attorney** at Law, Atlantic Building, Washington, D. C.

New England City.

AN EXCELLENT LOCATION

FOR

MANUFACTURERS

A Desirable Home for Settlers.

Great Opportunity for Investors.

A party of New England business men, after careful examination of different localities in the South, purchased about 20,000 acres of what is conceded to be the richest mineral land in that section (proven by actual assays). It is situated in

Dade County, Georgia,

In close proximity to the rich mines which have been worked for years by ex-Gov. Brown. Beautifully located in the Tennessee Valley, on high ground, with pure water, excellent opportunity for drainage, and climate which is simply perfect, we have natural advantages possessed by few cities in the country.

Transportation. The Alabama Great Southern Railroad, a link of the Queen and Crescent Route, runs directly through the city site, and two other railroads have already been surveyed, which connect the city with other trunk lines. This property is located within two miles of the Tennessee river, which is now navigable from Chattanooga to the Gulf.

Minerals. Coal and Iron are found here in closer proximity than at any other point in the South, and in sufficient quantities to supply all the iron industries of New England.

Timber. Stone for Building purposes, and Clay for Fire Brick are here in inexhaustible quantities, and there is everything necessary to build and support a city of great size.

Our Policy. Manufacturers wishing to avail themselves of these natural advantages will find this an excellent location, and the company will deal with them most liberally. There is no place that offers greater inducements or better prospects to careful investors.

Capital Stock, \$5,000,000, divided into 50,000 shares of \$100 each, of this amount, 16,000 shares are sold, 10,000 shares are retained in the treasury, and 24,000 shares are offered for sale at \$25 per share.

City Lots. City Lots will be sold as soon as a survey, now being made, is completed.

EX-GOV. ROSWELL FARNHAM, Pres.
GEORGE M. GLAZIER, 1st Vice-Pres.
ISAAC J. BROWN, Sec. and Treas.

DIRECTORS:

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HON. FRANK D. CURRIER, Canaan, N. H.
JOHN FARR, Jr., Littleton, N. H.

Correspondence invited from all wishing to purchase stock or establish manufacturing enterprises. Address

THE NEW ENGLAND COMPANY,

No. 1 Beacon St., Boston.

An Unequalled Investment.

THE

Roseland Iron & Coal Co.

OF

WAYNESBORO, VA.

Of which GEN. W. S. ROSECRANS, Registrar of the United States Treasury is President, offers for Sale for a short time

\$200,000 of 6 per ct. Bonds

SECURED BY

First Mortgage on more than 3,000 Acres of the Finest Iron Ore Property in America, and a large amount of Town Site Property.

AN UNPRECEDENTED OFFER.

With each \$500 Bond the Company will give \$500 of Stock and a Town Lot near Waynesboro Junction, the finest town site in Virginia. This is one of the most attractive offers ever made to investors.

Subscriptions to Bonds are Payable in Installments.

The proceeds of the sale of bonds are to be used in laying out and improving a town and developing the iron ore property. Shipments of ore are now being made. The ore lands cover more than 3,000 acres of a solid mountain of rich ores, yielding in inexhaustible quantities the finest ores, suitable for making all grades of iron. There is no place in the country where high grade ores can be more easily mined.

The wonderful development of Virginia towns, and the great boom that is spreading over the whole State, make this opportunity to secure a safe 6 per cent. bond, at par, with a bonus of \$500 of stock and a town lot, an unequalled offer.

FOR FURTHER PARTICULARS ADDRESS

The Roseland Iron & Coal Co.

WAYNESBORO, VA.

To Manufacturers

The Lynchburg Land & Improvement & Manufacturing Company is the owner of thirty acres of land adjoining the corporate limits of the City of Lynchburg.

The Richmond & Danville Railroad runs through the tract, and offers all necessary sidings and connections with other lines of railway centering at this city.

This Company will give a site for any manufacturing enterprise which may give promise of success, and will further take stock in its capital if its outlook is encouraging.

There can be no better situation for a Car Plant. To such an enterprise properly organized it would give ample accommodation and make a considerable subscription to its stock.

Lynchburg has a population of over 25,000; is situated upon the Virginia Midland division of the R. & D. R. R. Co.; the R. & A. division of the Chesapeake & Ohio R. R. Co.; the Norfolk & Western R. R. Co., and is the terminal point of the Lynchburg & Durham R. R. Co. No place, therefore, has greater railroad facilities.

Persons wishing to avail themselves of these advantages will correspond with Richard L. Miller, the president of the Company, or

SAMUEL T. WITHERS,

Treas. and Sec'y L. L. I. & Mfg. Co.

LYNCHBURG, VA.

R. L. MILLER, President.

S. T. WITHERS, Sec'y and Treas.

TEN GOOD SITES FOR Manufacturing Enterprises.

Now ready. Stock taken and ground given. Iron and Coal Lands for sale in Alabama and Tennessee. Address

J. A. HOOVER,
Lock Box 11, Chattanooga, Tenn.

Cotton and Woolen MACHINERY.

280 Cards, 36 inch, top flat, self-stripping; 57 Cards, 36 inch, Foss & Pevey, and all other Machinery for Cotton Mills to match.

My Store Houses here have over 2 ACRES of floorage, which is covered with good machinery, including nearly full systems for Cotton and Woolen Mills.

JEREMIAH CLARK,

Lowell, Mass. Office, 63 Dutton St.

We wish to Sell our WOOLEN MILL.

75 feet long, 40 wide, 3½ stories, besides a dye-house adjoining on a large lot, with a good water supply; runs by steam. Good engine and boiler, building frame in good repair, painted, with metal roof, about 3 minutes walk to Court House; a 2 sett mill, with looms, 1 broad and 3 narrow, 3 twisters, 1 a ring twister and a new gig for napping blankets and flannels, and everything complete for making yarn, blankets, skirts, flannel, jeans, etc., etc. We have built up a trade in stocking yarn, blankets, skirts, flannel and jeans. We are now running, but we wish to sell, as we are getting too old to continue. Our town has about 2,000 inhabitants. The county seat of Brown County, on the Cincinnati, Georgetown & Portsmouth Railroad, 8 miles from the Ohio River & C. & O. R. R., 11 miles from the Ohio & Northwestern Railroad, a railroad partly completed from here to the last named railroad. We are 40 miles from Cincinnati, 19 from Maysville, Ky. There is wood enough raised in this county to supply 2 such mills. Wood, \$1.50 per cord; coal from the river cheap. No other mill in this town or county. Will give a bargain to parties wishing to buy. This is the time to purchase, and start in next spring and manufacture for old customers, or on a line of goods such as may suit the views of the buyer. Address, R. YOUNG & CO., Box 128, Brown Co., Georgetown, Ohio.

GRAND Auction Sale!

AT
WAYNESBORO, VA.

900 Residence Lots

THE UNDERSIGNED WILL SELL

Public Auction,

TUESDAY, WEDNESDAY & THURSDAY,
Feb'y 25, 26, 27, 1890,

Without RESERVE, 400 of these beautiful Residence Lots, 50x150 feet, located in the southwest end of Waynesboro, surrounding the famous Baker Springs, which will be used to supply the new city with water. It is one of the finest springs ever seen—gushing from under the sandstone formation of a gently rising hill, there is a flow of 7,000,000 gallons per day of pure, soft water, forming just below a lovely lake all over the bed of which the water can be seen boiling up through the beautiful white sand. On the hill just above the spring is to be located the finest hotel in this section of country, which will be supplied with all modern conveniences and kept open the year round. As a resort for families it is unequalled. These lots are amongst the best building lots at Waynesboro, well located on high, smooth ground, and can be supplied with water at a small cost from the spring. This is a rare chance for investors to get in on the ground floor.

Special Arrangements made with all Railroads for that Occasion.

TERMS:

One-fourth cash; balance on a credit of 1, 2 and 3 years, with interest from day of sale, purchaser giving negotiable notes secured by a deed of trust.

For further information and maps of the property, apply to

BIBB & HARMAN,
Real Estate Exchange,
WAYNESBORO, VA.

Canning Factories

ESTABLISHED AND BUILT.

SUPERINTENDENTS FURNISHED

To take charge of Factories.

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BUTTE, MONTANA,

The railroad, mining and commercial center of the new State, offers some of the best inducements for investments in Real Estate, Mines and Mining Stocks of any locality in the Northwest.

For particulars address

The Evans, Terry, Claussen Brokerage Co.
41 E. BROADWAY, BUTTE, MONTANA.

RADFORD, VA.

Town Lots, Mineral, Timber and Farm Lands.

We have many large and small tracts.

Iron Ore, Coal, Glass, Sand, Marble, Building Stone, and Several Mineral Springs, of Wonderful Curative Properties.

The best of farming and grazing lands. No malaria. No mosquitoes. Salubrious climate. Gorgeous scenery. Water power unlimited. Factory sites donated. Property at first hands, so get in on "rock bottom." Write to or call on

BARCLAY & CROCKETT,
The leading Real Estate Agents of Southwestern Virginia, RADFORD, VA.

ELIAS EDMONDS,
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SAN ANTONIO, TEXAS.

Makes the Litigation of Land Titles a specialty. Will also Lend Money for non-residents upon the best real estate security.

FOR SALE.

THE
Sash, Door and Blind Factory

situated in the town of Fayetteville, N. C., together with all machinery; also all tools and machinery in machine shop connected with the above must be sold in the next ninety days, owing to the death of one of the partners. For information address

SUTTON & HENZY, P. O. Box 131

For Sale.
BOILERS.
41 Second-Hand and 23 New Boilers,
13 Second-Hand and 19 New
ENGINES.
At buyers' prices. Address
CASEY BOILER MFG. CO. Chattanooga, Tenn

FOR SALE.

12-ton ice plant (Pictet) all complete and in first-class order, can be had at one-third cost, and been in use only one year. For particulars inquire of

SO. FLORIDA FOUNDRY & MACHINE CO.,
ORLANDO, FLA.

MACHINE SHOP FOR SALE.

We desire to devote all of our time and space to increasing the product of our stove and hollowware foundry and offer for sale our thoroughly-equipped machine shop with all necessary supplies and a well-established custom. It is situated

IN ROME, GA.

growing rapidly with all the appointments of a large city, has a fine climate, nine railroads, is on a navigable river—population 13,000. To the right parties the opportunity is exceptional. References given and required. Address

BOWIE, GEORGE & TERHUNE,
ROME, GA.

THE JACKSON & WOODIN MFG. CO.
Cast Iron Gas and Water Pipe and Castings
OF ALL DESCRIPTIONS.
Berwick, Columbia Co., Pa.
FREIGHT CARS, CAR WHEELS, BAR IRON,
SPECIAL CASTINGS.

Steam Fire Engines FOR SALE.

One Hunneman and one Button in first-class condition. Also all kinds of second-hand Engines and Boilers for sale cheap. For terms, prices, &c., address

Lowell Steam Boiler Works,

LOWELL, MASS.

Estimates given on New Work of every description.

SOAP & CANDLE MACHINERY.
"THE HONEST HORSE RACE"
A.W. HOUGHIN, BROOKLYN, N.Y.
SPECIAL MACHINERY DESIGNED.
CATALOGUES FREE.

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Paper Mill Machinery

No. 101 Milk Street, Boston.

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Sole Manufacturers of the "SALEM" ELEVATOR BUCKET, for Mill and Elevator work, Ear Corn, Corn and Cobs, Ores, Coal, Broken Stone, &c. Send 9 cents (stamps) for postage on Sample Salem Bucket and Illustrated Catalogue.

PICKANDS, MATHER & CO.

Pig Iron, Iron Ore and Coal.

Perry-Payne Building,

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MORGAN'S IMPROVED

Steam and Hot Water Boilers,

For WARMING City and Country Residences, Hotels, Schools, Churches and Public Buildings.

Send for Catalogue. **D. F. MORGAN, Akron, O.**

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MRS. JEFFERSON DAVIS.

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The prospectus and complete outfit for canvassing will be ready immediately. Agents wishing desirable territory on this great work will please address, as soon as possible, the publishers,

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The THROUGH SLEEPER ROUTE

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Lexington, Ky. Louisville, Ky.
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And All Points West and Southwest.

Only one night out to Lexington and Louisville. A sumptuous Pullman Sleeping Car leaves Washington, D. C., at 9.40 P. M. daily, attached to the C. & O. P. F. V. train, and runs through to Louisville.

Be sure your tickets read via the N. N. & M. V. Co. and Lexington. Tickets via this route on sale at all C. & O. and P. R. R. stations.
S. A. BROMBERG, T. P. A. J. L. MURPHY, G. P. A.
Lexington, Ky. Lexington, Ky.
J. D. VARRINGTON, 2d V. P., Lexington, Ky.

The Erie "Vestibule" Service.

The popular Erie Railroad have issued a neat little vest-pocket time table, which gives a description of their famous "Vestibule Limited" train, every car of which was built to order for them at the Pullman shops. Every modern improvement and luxury has been adopted by the enterprising and go-ahead officials of the Erie Railroad, which has become a favorite route of travel, owing to constant consideration of the requirements of passenger travel—safety, speed and luxury—combined with the beautiful scenery which has made this route famous. These neat and artistic folders can be had by addressing W. C. RINEARSON, G. P. A., Cleveland, Ohio, and are well worth the trouble of writing for.

CHARLOTTESVILLE, VA.

OFFERS

Great Advantages and Liberal Inducements to Manufacturers

DESIRING TO LOCATE SOUTH.

Railroad Facilities, Cheap Rates and Rapid Transportation to all Points Unexcelled.

PERFECT CLIMATE. UNLIMITED SUPPLY OF EXCELLENT WATER.

Gas, Electricity and Street Railway. Free Schools and Churches. Different Lines of Manufacturing Enterprises Already in Successful Operation Here.

A LIVE AND GROWING PLACE.

HOME CAPITAL WILL JOIN IN THE ESTABLISHMENT AND OPERATION OF FACTORIES.

COME AND SEE, OR WRITE TO JOHN M. WHITE, President.

CHARLOTTESVILLE INDUSTRIAL & LAND IMPROVEMENT CO., Charlottesville, Va.

CAMDEN,

The Capital of Kershaw County,
South Carolina.

This ancient and historic town is noted for its dry atmosphere, pure water, beautiful scenery, healthful climate and refined society.

It is the center of a rich agricultural country, which contains great natural resources. Hardwoods of many species are abundant, and great forests of long leaf pine, which impregnate the air with terebenthine odors. Several good hotels entertain travelers, and two are carefully conducted for the especial comfort of northern health and pleasure seekers.

Manufacturing of all kinds can be done here advantageously. Two railroads, the South Carolina and the Charleston, Cincinnati & Chicago, furnish transportation to all parts of the country. Two telegraph lines, the Postal and the Western Union, have offices here.

Churches and schools are numerous and well sustained.

A cotton mill company has been organized, and the first installment of twenty per cent. has been called in.

Land is cheap. The climate is salubrious, and subject to no extremes during the year.

Camden invites capitalists, manufacturers, pleasure and health seekers and sportsmen to visit the city and examine the advantages it offers to all.

All inquiries will be promptly answered by the undersigned, official representative of the intendand and warders.

DR. JOHN W. CORBETT

Or the President of the Board of Trade.

GEO. T. McWHORTER, Prest., Chickasaw, Ala.
JAS. M. ALLEN, Secretary, Waterloo, Ala.

Capital Stock \$200,000.

THE WATERLOO Land, Mining & Mfg. Co. WATERLOO, ALA. (Lauderdale Co.)

Will encourage the location of manufacturing and industrial enterprises in the town of Waterloo by donations of town lots, mineral and timber lands, and stock of the company. Persons who contemplate engaging in enterprises of this character in North Alabama are requested to consider the advantages, present and prospective, of this point before deciding to locate elsewhere. Waterloo is situated on the north bank of the Tennessee river, below Colbert Shoals and consequently at the head of summer navigation on said river. During low-water stage light draft steamers run from Waterloo to Florence, Sheffield and other points above the shoals, freight being transferred at Waterloo. At this season goods may be billed from St. Louis, Cincinnati, Louisville, Evansville and all Western river cities to Waterloo cheaper than any other town in Alabama (Chickasaw excepted). Waterloo is in the heart of the mineral belt, the immense beds of iron ore of Wayne and Lauderdale counties lying in close proximity (5 to 10 miles). Limestone, silica and kaolin are abundant and close. The largest area of virgin forest in North Alabama lies, in sight. The Land Company owns large bodies of this, together with many valuable town lots. The water supply is abundant and pure. Scores of springs bubble up within the town limits and the limpid waters of Second Creek wash the eastern border. The health of the community is unexcelled and the cost of living cheap. This is the largest shipping point for tan bark in the State. Present price of bark at landing \$4.50 per cord. Special facilities for tanning leather. The Land Company will donate a large body of fine timber and mineral land in a block to secure the construction of a railroad, north or east from Waterloo, such a road being needed in connection with the unequalled facilities of water transportation enjoyed by the town. Liberal aid will be given to persons who will locate industries here that give employment to labor and add value to raw material.

No matter what you intend to manufacture, consult the Waterloo Land, Mining & Manufacturing Co. and learn what facilities for the prosecution of your business the place enjoys and what inducements will be offered you to come. All questions truthfully and fairly answered. For further information consult the President, Secretary or Hon. Hiram Richardson, Vice-President, Waterloo, Ala.

DENISON, TEXAS.

THE
Future Manufacturing and Commercial Center
OF THE
GREAT SOUTHWEST.

DENISON SUPPLIES THE COAL FOR TEXAS.

She has at her gates the only **COKING COAL** of any value in the Mississippi Valley. To the Southwest lies the best **MAGNETIC IRON ORE** in the world, while to the north and Southeast are fields of **BROWN HEMATITE ORE** of the finest grade. These ores must meet the **COKE** and **COAL** at **DENISON** and there to be worked.

DENISON cannot be surpassed for **HEALTHFULNESS** and **BEAUTY** of location. Six divisions of railways terminate at Denison and are operated by her citizens.

DENISON has an abundant supply of pure, soft water and plenty of good, cheap **BUILDING MATERIAL**.

The attention of investors and those seeking advantageous locations for business or for manufacturing plants is invited to the opportunities presented at Denison.

MUNSON & BRO. HAVE SUPERIOR FACILITIES FOR THE SAFE AND PROFITABLE INVESTMENT AND HANDLING OF CAPITAL.

For information about **DENISON** and for bargains in **BUSINESS** and **RESIDENCE PROPERTY**, **ACRE PROPERTY** and **FARMS NEAR THE CITY**, write or call upon

MUNSON & BRO.

301 WOODWARD STREET,

DENISON, TEXAS.

CURRY COTTON COMPRESS.

GREAT ECONOMY

in first cost, and in operating costs about half as much as the steam presses. Will compress 400 bales to commercial size in **TEN HOURS**, at a fuel expense of **ONE CENT** per bale and a total expense of less than **TEN CENTS** per bale.

Especially Adapted to Points where from 10,000 to 30,000 bales are received.

SPLENDID INVESTMENT.

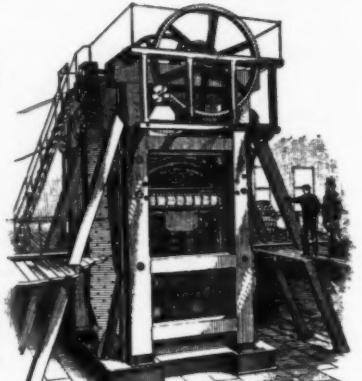
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W. P. CALLAHAN & CO.

MANUFACTURERS OF

Cotton Compresses & Cotton-Seed Oil Machinery

DAYTON, OHIO, U. S. A.



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PATENT
NEEDLE POINT
CARD CLOTHING.
AND ALL OTHER VARIETIES
WORCESTER, MASS.

Bobbins, Spools, Shuttles,
AND ALL MANUFACTURERS' WOOD SUPPLIES
AND SPECIALTIES IN MILL TRADE.
The **GREENE & WOOD MFG. CO.**
NEW BEDFORD, MASS.



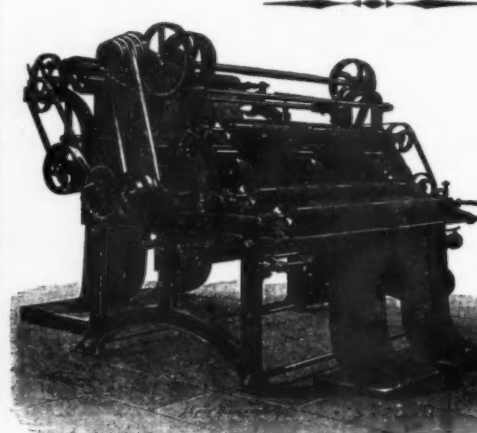
OILLESS BEARINGS.

They will run for years without oil. Perfectly clean. No cutting or danger of fire from overheating. Send for New Circular of interest to users of Loose Pulleys.

North American Metal Co., 37 Bleecker St., N.Y. City.

THE GROSSELIN-MOSER PATENT Universal Raising or Napping Machine

FOR ALL KINDS OF COTTON OR WOOLEN FABRICS.



THE advantages obtained by this Machine, which is used by the best Manufacturers and Finishers in Europe, are that the raising is FAR MORE EVEN and FULLER at the bottom, so that the goods raised on it feel MUCH THICKER and SOFTER than can be obtained by any other Card-Raising Machine or Teazle Gig. This result being obtained with less waste of material (flocks), and AN ENORMOUS SAVING IN TIME, LABOR AND POWER.

One of these Patent Raising Machines will do the work of six Card-Raising Machines of any other patentee, or eight Teazle Gigs, and by means of the differential motion raises, WITH ONE AND THE SAME CARD AND WITH EQUAL FACILITY, the

HEAVIEST as well as the LIGHTEST and SOFTEST Fabrics. The Machine raises goods either dry or wet, and also after bleaching; it is equally well adapted for backing as for face goods; it raises equally well the thinnest Spirting as the heaviest Cloth.

It is patented all over Europe and in the United States of America, and is now in use for raising:

COTTONS: Shirtings, Calicoes, Twills, Imperials, Lambskins, Velvets, Cords, Moleskins, Fustians, Flannelettes, Trouserings, Blankets, Quiltings, Dometts.

MIXED GOODS: Angola Flannels, Blankets, Rugs, Winseys, Unions, Shawls.

WOOLENS: Flannels, Beavers, Blankets, Shirtings and Fine Dress Goods.

The Machine takes very little power, a 3-inch strap will drive it under any circumstances. As everything on it is self-acting, it does not require an experienced man to work it.

CARD CLOTHING SUPPLIED.

Refer by permission to Robert Dobson & Co., Pittsfield, Me.; R. S. Frost & Co., Boston and New York; Hale & Frost Mfg. Co., Hinsdale, N. H.; G. T. Murdoch & Son, New Boston, Ct.; Washington Mills, Lawrence, Mass. Full particulars on application to

CHAS. HEAP.

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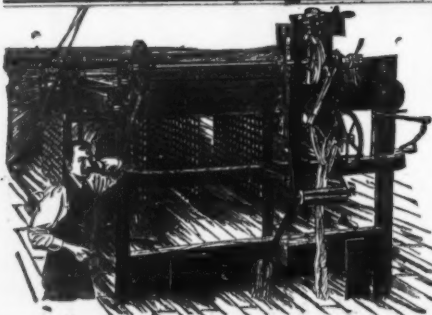
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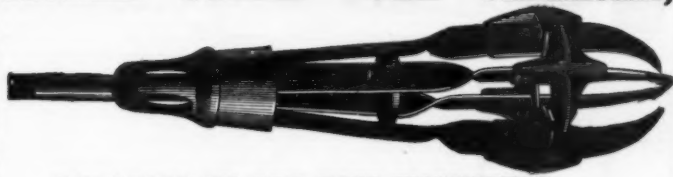


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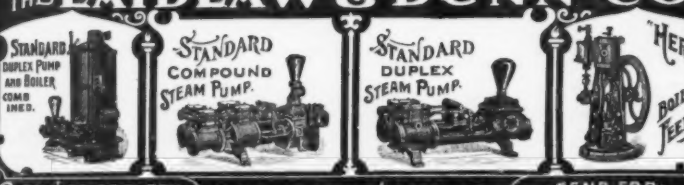
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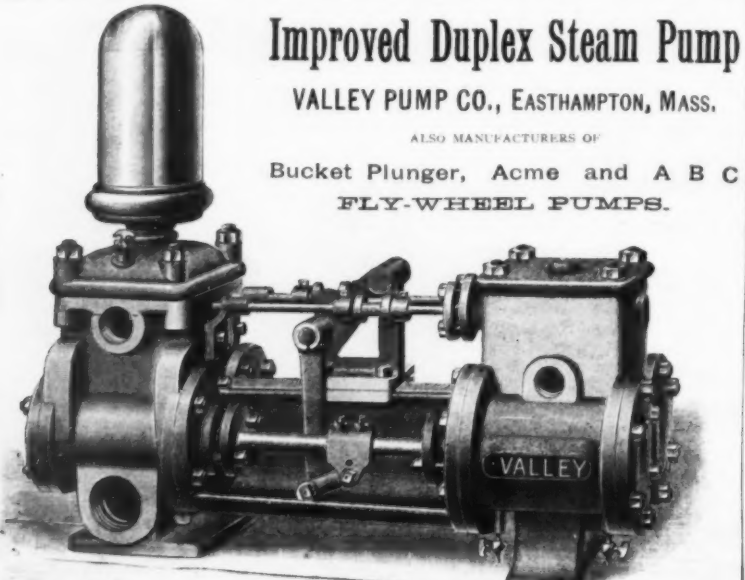
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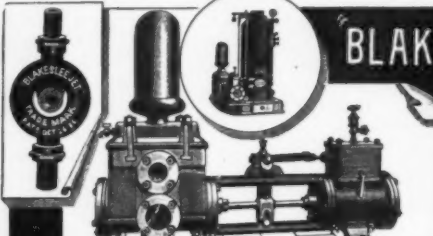
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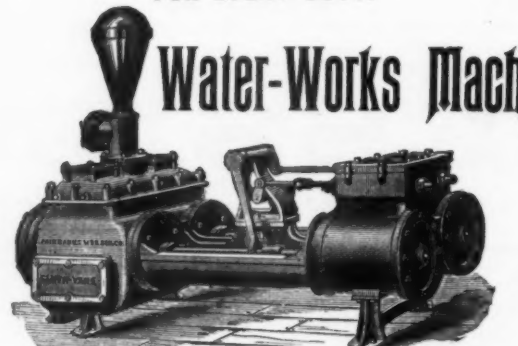
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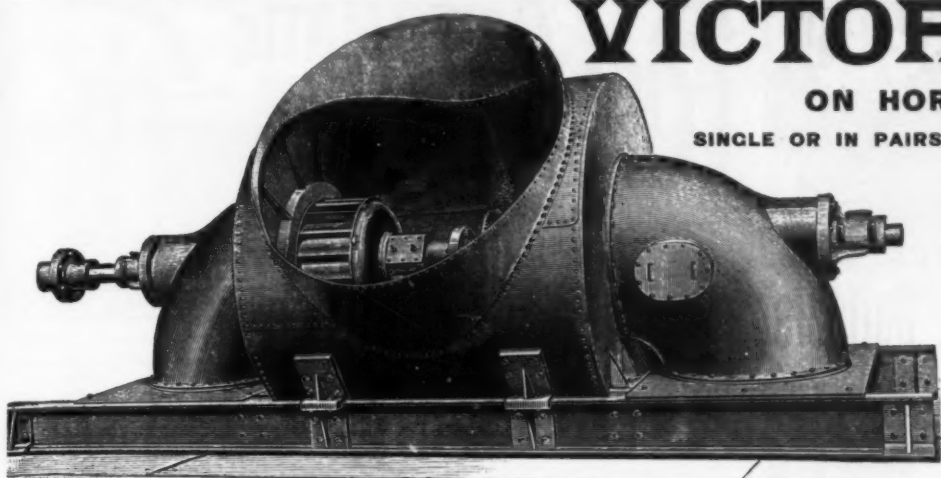
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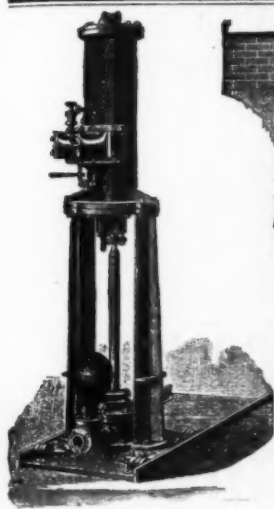
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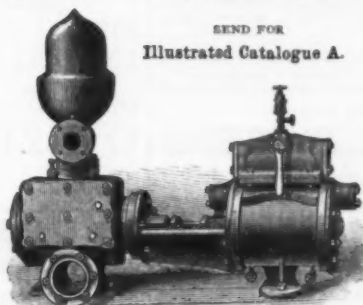


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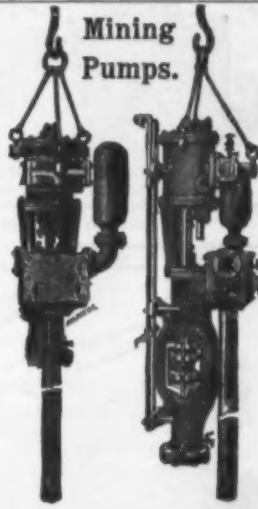
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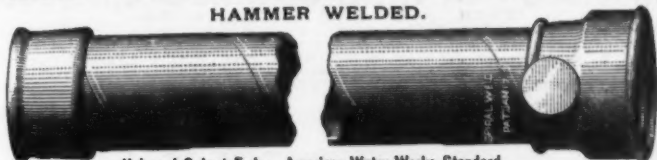
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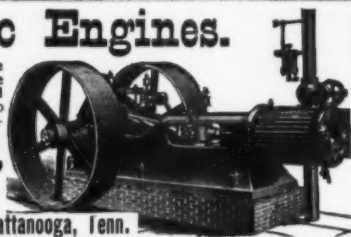
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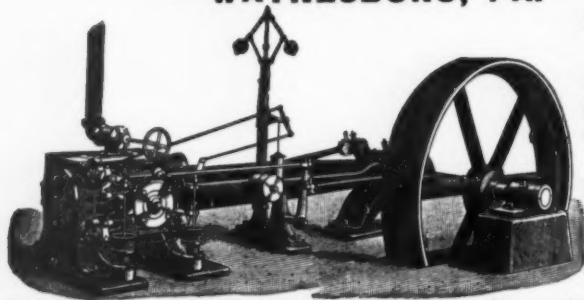
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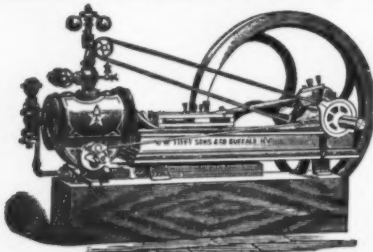
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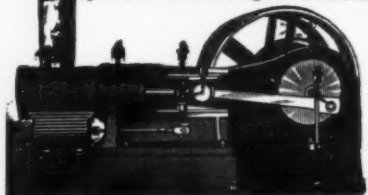
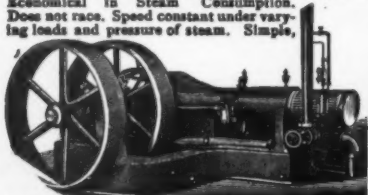
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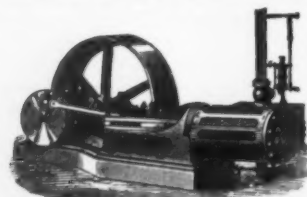
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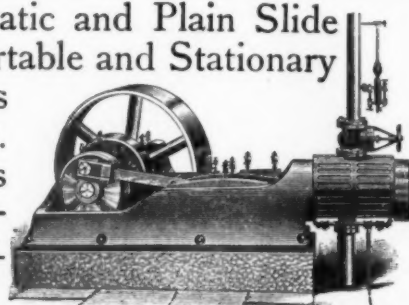
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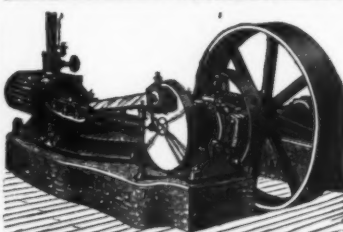
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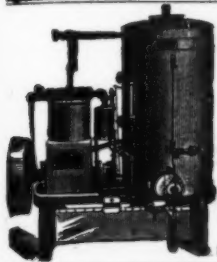
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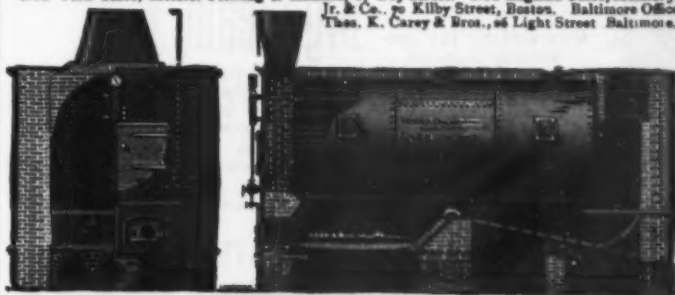
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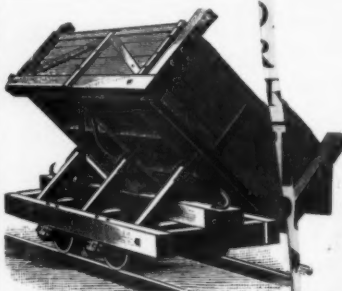
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PAGE(S) M

MISSING

A mortgage is on file to be recorded at Fernandina, Fla., from the Florida Central & Peninsular Railroad Co. (office Jacksonville) to Alexander M. White, of Brooklyn, N. Y., for \$30,000.

Atlanta, Ga., will hold an election on March 8 to ascertain as to the issuance of \$250,000 of bonds for the purpose of increasing water supply, and also \$100,000 of bonds towards paying for the construction of sewers.

Bowling Green, Ky., will decide by popular vote on the proposition mentioned last week to issue \$20,000 of 5 per cent. bonds for street improvements. Mayor T. J. Smith can give information.

Bright Williamson, Augusta, Ga., will sell at public auction on March 4th 50 shares of the Sibley Manufacturing Co.'s capital stock.

Bristol, Tenn., will hold an election on March 6 to ascertain as to the issuance of \$40,000 of bonds to aid in the construction of the Bristol, Elizabethton & North Carolina Railroad.

Crab Orchard, Ky., has been authorized to issue bonds to pay off its indebtedness.

Crystal Springs, Miss., has been authorized to issue bonds for public school purposes.

Chester, S. C., has decided to appropriate \$10,000 of bonds for the purpose of erecting a town hall, etc.

Cumberland, Md., will ask the Maryland legislature to authorize the city to issue \$30,000 of coupon bonds to pay the floating debt and \$70,000 of coupon bonds to pay the 7 per cent. water bonds due June 1. The bonds are to bear 4 per cent. interest.

Dallas, Texas.—The capital of the American National Bank has been increased from \$75,000 to \$100,000.

Elizabeth City County, Va., has been authorized to issue bonds for the purpose of providing funds to pay for rebuilding the county courthouse.

Elkton, Md., has empowered its commissioners to issue \$3,000 of bonds to provide for the erection of a town building.

Fayetteville, Ark.—The Washington County Bank has increased its capital stock to \$100,000, half of which is paid up.

Florence, Ala., offers for sale \$100,000 of sewer and street improvement coupon bonds.

Franklin County, Va., will hold an election on March 26 to decide whether to issue \$75,000 of bonds for the purpose of aiding in the building of the Roanoke & Southern Railroad.

Greensboro, N. C.—The Piedmont Bank has declared 7½ per cent. dividend.

Greenwood, Miss.—The Delta Bank has declared a 5 per cent. dividend.

Hazlehurst, Miss., has asked permission of the State legislature to issue bonds for the purpose of providing for the erection of a school building.

It is expected that the Fort Payne Coal & Iron Co., Fort Payne, Ala., at its annual stockholders' meeting, will authorize the issue of \$80,000 10-year 6 per cent. bonds on the Fort Payne water works, nearing completion.

Moundsville, W. Va., was reported recently as having voted to issue \$20,000 of sewer bonds. This was a mistake. An election will be held on February 24 for that purpose. Louis B. Purdy, mayor, can give information.

New Hanover, N. C.—The Bank of New Hanover has declared a semi-annual dividend of 4 per cent.

Rockingham County, Va., will ask the legislature for permission to issue bonds providing for the payment of balance on the railroad debt of said county, the amount of bonds not to exceed \$100,000.

Suffolk, Va., has been authorized by the legislature to borrow \$30,000 for the purpose of erecting a town hall and market-house, previously referred to.

Sulphur Springs, Texas, has registered \$10,000 of street improvement bonds.

The Southern Iron Co., Chattanooga, Tenn., has filed a deed of trust on all its property with the Central Trust Co., of New York, to secure the loan of \$400,000.

The Central Trust Co., of New York, will pay coupons on first mortgage due the Sloss Iron & Steel Co., of Birmingham, Ala.

The commissioners of Charleston county, S. C., have anticipated the payment of the county indebtedness due March 1, and will retire about \$15,000 of 4 and 6 per cent. bonds.

The Brooks Alliance Warehouse Co., Quitman, Ga., has declared a dividend of 10 per cent.

The Cannon Manufacturing Co., Concord, N. C., has declared a dividend of 4 per cent.

The D. E. Converse Co., Glendale, S. C., has declared a semi-annual dividend of 50 per cent.

The Monroe Iron Works Co., Monroe, N. C., has declared a dividend of 15 per cent.

The Fidelity Trust & Safety Vault Co., Louisville, Ky., has declared a quarterly dividend of 2 per cent.

The First National Bank of Winston, N. C., contemplates an increase of capital stock from \$100,000 to \$250,000.

The Galveston Wharf Co., Galveston, Texas, mentioned elsewhere in this issue, will consider the issuance of \$1,500,000 of bonds.

The Louisville (Ky.) Bridge Co. has declared a semi-annual dividend of 4 per cent.

The Pensacola Electric Light Co., Pensacola, Fla., has declared a semi-annual dividend of 3 per cent.

The Board of County Supervisors, Vicksburg, Miss., will petition the legislature for authority to issue 6 per cent. bonds for building iron bridges, in amounts not exceeding \$10,000 per annum.

The Norfolk & North Carolina Canal Co., (office, Norfolk, Va.) has been authorized to increase its capital stock and issue bonds.

The People's Loan & Homestead Co., Galveston, Texas, has declared a semi-annual dividend of 4 per cent.

Westminster, Md.—The Mechanics' National Bank has declared a semi-annual dividend of 2½ per cent.

Yazoo City, Miss., has asked for permission to appropriate \$10,000 for school purposes.

Baltimore Stock Exchange Quotations.

Reported by ALEXANDER BROWN & SONS, Bankers, Baltimore.

BALTIMORE, Feb. 12, 1890.

	BID.	ASKED.
Virginia 6's Consols C.....	41½	42
Virginia 3's, new.....	66	66½
Virginia Consol Coupons, N. F.....	20	..
Virginia 10-40 Coupons, N. F.....	24	..
N. Carolina 4's.....	97	..
Ga. Car. & N. 5's.....	103½	104
Va. & Tenn. 8's.....	126	..
Wil. & Wel. Gold, 7's.....	115½	116
Wil. & Wel. 5's.....	111	112
Wil. Col. & Aug. 6's.....	120	123
Atlanta & Char. 1st, 7's.....	120	..
Col. & Green. 1st, 6's.....	104½	105
Va. Midland, 5th, 5's.....	100½	101
Char., C. & Aug. 1st, 7's.....	109½	110
West Va. Central 1st, 6's.....	109	110
Cape Fear & Y. Valley 6's, B.....	102	..

Foreign Exchange Quotations.

ALEXANDER BROWN & SONS, Baltimore, Feb. 12, 1890.

Sterling dull.	Commercial.
60 days..... 48½	60 days..... 48½
3 days..... 48½	3 days..... 48½
Francs.—	Commercial.
60 days..... 520	524½@523½
3 days..... 518½	..
Reichmarks.—	Commercial.
60 days..... 94½	60 days..... 93½
3 days..... 95½	3 days..... 94½
Gulders.—	Commercial.
60 days..... 40½	60 days..... 39½
3 days..... 40½	3 days..... 39½

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Richmond Stock Exchange Quotations.

Reported by JOHN L. WILLIAMS & SON, Bankers, Richmond.

RICHMOND, VA., Feb. 11, 1890.

	BID.	ASKED.
North Carolina 4's, 1910.....	96½	97½
North Carolina 6's, 1919.....	125	127
Virginia New 3's, 1932.....	66½	66½
Lynchburg, Va., 5's, 1915.....	103½	104
Petersburg, Va., 5's, 1918.....	103½	104
Norfolk, Va., 5's, 1911.....	104	..
Richmond, Va., 5's, 1922.....	111	114
Atlanta & Charlotte Ky. 1st 7's, 1907.....	121	121
Atlanta & Charlotte G'd 6's, 1900.....	104	..
Char., Col. & Aug. R.R. Gen. 6's, 1932.....	108½	109½
Georgia Pacific Ry. 1st 6's, 1922.....	112½	113
Georgia Pacific 2d 5's, 1923.....	82	83
Ga. Pacific Incomes, 5's.....	29½	30
Petersburg Railroad Class A 5's, 1926.....	104	108
Petersburg Railroad Class B 5's, 1926.....	106½	107½
Rich. & Danville R. R. Gold 6's, 1915.....	116	..
West. N. Car. R. R. Gen. 6's, 1914.....	94½	96
Northwestern N. Car. R. R. 1st 6's.....	102	104
Atlanta & Charlotte R. R. Stock.....	91	92½
North Carolina Railroad Stock.....	104	107
R. F. & Pot. R.R. Div'd Obligations.....	107½	110
Virginia Midland Railway Stock.....	43½	45
Sloss Iron & Steel Co. Stock.....	62	64
Sloss Iron & Steel Co. 1st 6's.....	94	95
Sloss Iron & Steel Co. 2d 6's.....	78	79

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CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

J. E. Kellogg, Kalamazoo, Mich., desires to locate a lumber manufactory at some Southern point.

ALABAMA.

Anniston—Planing Mill, etc.—The United States Rolling Stock Co., mentioned in last issue as to build a rolling mill, has also let contract to W. W. McAfee to erect a planing mill, engine house and dry-kiln. A brick smoke-stack 125 feet high will also be built.

Attalla.—A land company has been organized with Robert Newton as secretary. The capital stock is \$100,000.

Bessemer—Iron and Wire Works.—W. J. Long has added the manufacture of iron and wire ornamental goods to his cornice works.

Bessemer—Saw and Planing Mill.—Buck & Preston will, it is reported, move their saw mill to Bessemer and add planing mill.

Bessemer—Sash and Blind Factory.—A Tuscaloosa party is reported as negotiating to purchase the Bessemer Sash & Blind Factory.

Birmingham.—The East Tennessee & North Alabama Coal & Iron Co. will meet on March 10 to consider the increase of its capital stock to \$1,500,000.

Birmingham—Pottery.—The Anglo-Birmingham Pottery Co. has been organized with G. C. Kelly, president and J. H. Heinicke, secretary. It owns 23½ acres of kaolin lands.

Childersburg—Iron Mines.—The Woodstock Iron Co., of Anniston, has leased the iron ore lands of Bailey & Butler and will develop.

Cullman—Coal Mines.—The Parker Land & Coal Co. has been organized and will probably develop coal mines.

Day's Gap—Publishing.—A newspaper will probably be published.

Eufaula—Ice Factory.—W. E. Marcum will erect the ice factory mentioned in last issue.

Florence—Grate Works.—The Florence Grate & Mantel Works will operate the factory reported in last issue as to be established by the Stella Grate Works, of Chattanooga, Tenn.*

Greenville—Factory.—The Greenville Building & Loan Association contemplates, it is stated, erecting a factory.

Luverne—Planing and Grist Mill, &c.—G. N. Buchanan is erecting planing and grist mill and cotton gin.

Maplesville—Furniture Factory.—Dyar & Son, of Stanton, contemplate, it is stated, moving their furniture factory to Maplesville.

Mobile—Dry Dock.—The Gulf Dry Dock Co., lately mentioned as to construct dry dock, have purchased site 630 by 450 feet for \$32,000.

Montgomery—Woodworking Factory.—A. D. Mills & Co. will operate the woodworking factory mentioned in last issue.*

Opelika—Saw Works.—It is reported that J. W. Baldridge, president of the Baldridge-Hogan Saw Works, of Cincinnati, Ohio, is prospecting with a view to locating branch works in Opelika.

Orrville—Grist Mill and Gin.—Lovett & Rogers will rebuild at once their grist mill and cotton gin lately mentioned.

Perdue Hill—Ochre Works.—It is reported that N. A. Agee & Son, mentioned in last issue, have established ochre works.

Round Mountain—Coal Mine.—J. S. Jackson is opening the coal mine lately mentioned.

Sheffield—Engine Works.—The Globe Iron Works has added the manufacture of automatic engines to its product.

St. Clair County—Coal Mines.—W. P. Inman, J. H. Porter, Louis Gholstin and Jacob Haas, of Atlanta, Ga., owning 3,200 acres of coal lands, have organized the Broken Arrow Coal Co.

Talladega—Ice Factory.—The Talladega Ice & Cold Storage Co. is remodeling its plant.

Troy—Grist Mill and Ginnery.—Asbury Hinson will erect a grist mill and cotton ginnery.

Troy—Saw and Planing Mill, etc.—Joseph Michener will erect the saw and planing mill and sash, door and blind factory mentioned in last issue.

ARKANSAS.

Altheimer—Shingle Mill.—G. H. Van Etten, of Little Rock, will erect shingle mill at Sincow.

Batesville—Stone Quarry.—J. M. Bartlett is developing a stone quarry.

Benton—Publishing.—S. H. Whitthorne will publish a newspaper.

El Dorado—Zinc Mines.—George W. Goddard, lately mentioned as to probably develop a zinc mine, is a member of the firm of Goddard, Hirsch & Co., who are developing zinc mines.

Eureka Springs—Furniture Factory.—A furniture factory is projected. Thomas J. Gordon can give information.

Eureka Springs—Brick-yard.—Mark Lisle will start a brick-yard.

Fairmount—Publishing.—W. H. Wright & Son, of Concordia, Texas, will publish a newspaper.

Fairmount—Cotton Mill.—Efforts are being made by S. L. Harr and others to organize a \$500,000 stock company to build a cotton mill.

Fairmount—Furniture Factory.—S. L. Harr, E. Tallman and others are organizing a \$25,000 stock company to erect a furniture factory.

Fairmount—Canning Factory.—W. H. Wright, S. L. Harr, Householder Bros. and others are organizing a \$30,000 stock company to erect a canning factory.

Fayetteville—Water Works.—A Muscadine (Iowa) party has offered to organize a company to build water works. The mayor can give information.

Fayetteville—Creamery.—J. F. Simonds and W. F. Dowell are organizing the stock company mentioned in last issue to establish a creamery.

Helena—Oil Tanks.—The Waters-Pierce Oil Co. will construct two 5,000-gallon oil tanks.

Hope—Planing Mill.—The planing mill of the Hope Lumber Co. is being enlarged.

Hot Springs—Grading, &c.—Plans have been prepared for grading and draining certain streets. The mayor can give information.

Little Rock—Foundry and Machine Shop.—D. R. Wing & Co. will, it is reported, enlarge their foundry and machine shop.

Morrilton—Ice Factory.—G. L. Meyers contemplates starting an ice factory.

Pine Bluff—Pontoon Bridge.—The Cable City Bridge Co. is the name of the company mentioned last week as having received franchise to construct pontoon bridge over the Arkansas river. It will commence work at once. The cost will be about \$30,000.

Wilcoxson—Copper Mines.—The Copper City Mining Co. will soon commence operations at its mines.

FLORIDA.

Daytona—Bridge.—Wm. P. Cooper has contract for the construction of the bridge across the Halifax river, previously mentioned.

Drayton Island—Phosphate Mine.—The Drayton Island Phosphate Co. has been formed to develop phosphate lands.

Fernandina—Machine Shops, etc.—The Florida Central & Peninsular Railroad Co. (office, Jacksonville) has issued \$30,000 of bonds to liquidate a debt and erect the machine shops previously reported; also construct wharves, docks, etc.

Fort Meade—Fertilizer Factory.—The Fort Meade Fertilizer Co. has been organized to erect a fertilizer factory.

Gainesville—Limestone Quarry.—A company is being organized to develop limestone quarries. L. W. Jackson can give information.

Nocatee—Phosphate Works.—It is rumored that phosphate works will be established.

Pensacola—Timber Land.—A Michigan party has, it is reported, been prospecting with a view to investing \$500,000 in pine timber land.

Quincy—Cigar Factory.—McFarlin & Davidson have purchased the cigar factory of J. W. Dorr.

Quincy—Distillery.—J. B. Roberts will operate a turpentine still.

St. Augustine—Crematory.—The city has revoked the contract for a garbage crematory lately reported.

Titusville—Ice Factory.—Wetmore & Gladden are erecting an ice factory.

Williston—Packing House.—Seth Wilson, of Archer, will erect an orange packing-house.

GEORGIA.

Abbeville—Brick-yard and Shingle Mill.—E. P. King and W. E. Burch, of Hawkinsville, will establish a brick-yard and shingle mill.*

Adairsville—Iron Mines.—It is reported that iron mines will be developed.

Albany—Machine Shops.—The Albany, Florida & Northern Railroad Co. is not yet ready to build the machine shops mentioned in last issue.

Americus—Furniture Factory.—A \$50,000 stock company will probably be organized to erect a furniture factory.

Americus—Shingle Factory.—A party has been prospecting with a view to erecting a shingle factory.

Americus—Land.—A local syndicate has purchased 60 acres of land.

Americus—Car Works.—The erection of car works is projected. J. A. Fort, Sr., can give information.

Americus.—The Southern Lumber & Improvement Co. has been incorporated by R. F. and E. E. Nyswander to build houses of wood, brick and other material, and operate machinery pertaining to that business. The capital stock is \$25,000.

Atlanta—Cracker Factory.—T. S. Lewis, manufacturer of crackers, has commenced the erection of a new three-story cracker factory 50x100 feet.

Atlanta—Land.—The Peters Land Co. has been organized with E. C. Peters, president, and Quintard Peters, secretary, to improve the property of the Peters estate. The land will be laid off in lots and streets opened. Capital stock is \$100,000.

Atlanta—Novelty Works.—John Halliday and F. B. McCroskey have, with others, incorporated the Atlanta Novelty & Foundry Co. to enlarge and operate their machine shops.

Atlanta—Mattress Factory.—Louis Gholstin & Co. will move their mattress and spring bed factory to larger quarters.

Atlanta—Mattress Factory.—The Atlanta Mattress & Spring Bed Co. has been organized with A. G. Rhodes, president, and J. C. Evans, vice-president, for the manufacture of spring beds, mattresses, etc. The capital stock is \$20,000.

Atlanta—Machine Shops.—Houchin & Moore will enlarge their machine shops in the spring, and put in additional machinery.*

Atlanta—Mantle Factory, etc.—George S. May & Co., manufacturers of mantles, stairs and interior fixtures, have changed to a stock company, and will be known as the May Mantle Co. The capital stock is \$25,000.

Atlanta—Sewerage System and Water Works. The city will hold an election on March 8 to consider the issuance of \$250,000 of bonds to construct the sewers lately mentioned, and \$100,000 of bonds for the enlargement of the water works previously reported. Mayor Glenn can give information.

Atlanta—Bridge.—Contract for constructing the iron bridge lately mentioned across the Chattahoochee river has been awarded to the Missouri Valley Bridge & Iron Works, of Leavenworth, Kans., at \$13,400. T. G. Crusselle has contract for masonry.

Atlanta—Public Improvements.—M. Mahoney, commissioner of public works, will receive proposals until February 17 for 50 M lineal feet curbing, 50 M cubic yards excavation, 30 M lineal feet vitrified sewer pipe, from 8 to 24 inches in diameter, and 10 M barrels cement.

Augusta—Barrel Factory.—F. W. Pike & Co. will rent a building for their barrel and cooperage works, lately mentioned as burned.

Barnesville—Carriage Factory.—J. G. Smith is enlarging his carriage factory mentioned in last issue to double capacity.*

Barnesville—Planing Mill.—Turner & Prout will put in woodworking machinery later in the year.*

Brunswick—Soap Factory.—H. H. Harvey contemplates the manufacture of soap.*

Brunswick—Packing House.—Samuel D. Woodridge, of Kansas City, Mo., contemplates erecting a packing-house and building a wharf for his fruit business.

Brunswick—Brick and Tile Works.—The Brunswick Brick & Tile Manufacturing Co. contemplates enlarging its works.

Brunswick—Artesian Well, etc.—The Brunswick Co. will sink an artesian well in Windsor Park; also construct an artificial lake.

Buena Vista—Water Works.—Captain Newman has submitted a proposition to build water works.

Buena Vista—Brick-yard.—M. Hair contemplates starting the brick-yard mentioned in last issue.

Canton—Iron Mine.—J. H. Moore and others, of Nashville, Tenn., are the purchasers of the mineral rights to the iron ore lands of M. A. Keith

Cave Springs—Manganese Mines.—The Talladega Iron & Steel Co., of Talladega, Ala., will probably develop manganese mines.

and others, lately mentioned, and are opening a mine.

Cedartown—Dry-kiln.—The Cedartown Lumber Co. is erecting another dry-kiln.

Cedartown—Mineral Land.—J. K. Barton and L. B. Treadway have purchased the mineral land on Cedar creek of Mrs. S. J. Neil.

Cedartown—Mineral Land.—Parnell Scott, of Atlanta; G. G. Leake and R. T. Poole have purchased mineral land.

Columbus—Cotton Mill.—The Muscogee Manufacturing Co. has purchased the cotton mill of the Paragon Manufacturing Co. and will, it is stated, double capacity.

Columbus—Brewery.—The Chattahoochee Brewery will be enlarged.

Columbus—Water Works.—Water works will, it is reported, be built in the Rose Hill annex by a company which is now being formed.

Columbus—Compress.—W. M. Hitt, of Americus, states that he will not erect the cotton compress lately mentioned.

Cordele—Sash, Door and Blind Factory.—A sash, door and blind factory will probably be erected.

Cordele—Ice Factory.—A stock company has been organized and let contract for machinery for an ice factory.

Cordele—Sewerage.—The city will probably construct sewerage system. The mayor can be addressed.

Cordele—Ice Factory.—The Cordele Ice Co. has been incorporated by John King, J. B. Scott, J. W. Stapleton and others for the manufacture and sale of ice. The capital stock is \$10,000.

Cordele—Electric-light Plant.—Contract for erecting the incandescent electric-light plant lately mentioned has been awarded to the United Edison Electric Light Co.

Dahlonega—Gold Mines.—Wallace & Co., Sumner & Odam and Moore & Co. are developing gold mines.

Darien—Ice Factory.—The erection of an ice factory is projected.

Elberton—Boot and Shoe Factory.—T. M. Swift will start the boot and shoe factory mentioned in last issue.

Gainesville—Bending Works.—Hargrove, Dozier & Logan have started wood-bending works, and will add band and resaws.

Griffin—Chair Factory.—The Osborn Wolcott Manufacturing Co. will enlarge its chair factory, mentioned in last issue.*

Jasper—Planing and Grist Mill.—The Messrs. Rhyne will erect a planing and grist mill.

La Grange—Ice Factory, etc.—J. M. Colley, of West Point, is making efforts to organize a \$15,000 stock company to erect an ice and ice cream factory and bottling works.

Lexington—Brick-yards.—O. H. Arnold, G. W. Smith and W. H. Reynolds contemplate starting brick-yards.

Lexington—Brick-yard.—D. H. Arnold, of Crawford, will probably move his brick machinery to Lexington.

Machen—Machine Shops.—The town has offered to erect necessary buildings and give a bonus of \$1,000 to the Covington & Macon Railroad Co. (office, Macon) provided it locates machine shops in Machen.

Macon—Lumber Mill.—The Star Lumber Co. has been incorporated by L. A. Mitchell, of Dodge county, and E. G. Harris, of Macon, for the manufacture of lumber. The capital stock is to be \$70,000.

Macon—Compress.—The Georgia Southern & Florida Railroad Co. is considering the erection of the cotton compress mentioned in last issue.

Macon—Electric-light Plant.—The Macon Brewing Co. contemplates putting an electric-light plant in its brewery.

Macon—Cotton Mill.—The Bibb Manufacturing Co. has ordered 60 knitting machines. The cost is \$30,000.

Macon—Elevator and Grist Mill.—Taylor Bros. & Hall, of Athens, are selecting a site for their grain elevator and grist mill, mentioned in last issue.

Macon—Car Works.—It is stated that \$700,000 has been secured towards the capital stock of the company to build the car works lately mentioned. Capital stock is stated to be \$1,000,000. It is reported that the Georgia Southern & Florida Railroad is interested.

Macon—Car Shops.—The Central Railroad & Banking Co. (office, Savannah), lately mentioned as to enlarge shops, has had plans prepared, and work will begin at once. The cost will be about \$8,000.

Rome—Machine Works.—William McCoy and Thomas Fahy have formed a partnership to manufacture the steam blower and drier for furnaces, patented by Mr. McCoy.

Savannah—Factory.—R. G. Salomon, of Newark, N. J., contemplates erecting a factory for preparing the skins of dead animals for tanning and utilizing the bones and grease if granted certain privileges by the city.

Savannah—Canning Factory.—A canning factory is talked of. G. M. Ryals can give information if anything is done.

Statesboro—Furniture Factory.—A furniture factory will probably be started.

Tallahassee—Cigar Factory.—W. J. Dunlap, contemplates establishing a cigar factory.

Tallahassee—Furniture Factory.—Tallahassee Cabinet Co., mentioned in last issue, will erect a cabinet and furniture factory 50x32 feet and a dry kiln 20x20 feet.

Toccoa—Cotton Mill.—The Farmers' Alliance will probably take steps to secure the erection of a cotton mill.

Tunnel Hill.—Publishing.—The newspaper mentioned last week as to be published will be known as the Tunnel Hill Enterprise.

Washington—Compress.—Rucker & Pope will erect the cotton compress mentioned in last issue.

Waynesville—Brick Works.—The Brunswick Co., of Brunswick, has purchased the brick works of William Crovatt.

West Point—Machine Shop, etc.—The West Point Manufacturing Co. has erected a wood-working factory and will add machine shop.

KENTUCKY.

Barbourville—Bridge.—The Chicago Bridge & Iron Co. has contract to construct the bridge lately mentioned as to be built over the Cumberland river at \$14,200.

Barbourville—Handle Factory.—A handle factory is reported as to be started.

Beattyville—Bridges.—A bill has been introduced in the legislature at Frankfort authorizing the city to issue bonds to build bridges and make other improvements. The mayor can give information.

Bohon—Turnpike.—A bill has been introduced in the legislature at Frankfort to incorporate the Bohon & Hopeville Turnpike Co.

Bowling Green—Street Improvements.—The city will vote on the proposition mentioned last week to issue \$20,000 of bonds for street improvements about April 15. The mayor can give information.

Clay City—Water Works.—The Kentucky Union Land Co. constructed the water works mentioned in last issue.

Cloverport—Bobbin Factory.—It is reported that a bobbin factory is being erected.

Covington.—The Chesapeake & Ohio Coal & Coke Co. has amended its charter, changing name to the Kanawha & New River Coal & Coke Co. It has the privilege of manufacturing coke and developing coal mines. The authorized capital stock is \$25,000.

Dot-Flour Mill.—G. W. Russell contemplates building a flour mill on Red river.

Frankfort—Tobacco Factory.—The Ethel Tobacco Works Co. has been organized and has started factory.

Georgetown—Brick-yard.—G. H. Nunnell will probably start a brick-yard.

Glasgow—Oil Well.—Baily & Fisher will sink an oil well.

Glasgow—Oil Well.—T. McGinniss is sinking an oil well.

Glasgow—Oil Well.—The Kentucky Southern Oil & Gas Co. is drilling well No. 8.

Grayson—Machine Shops.—It is reported that machine shops have been established.

Hadley—Bridge.—Proposals for constructing the iron bridge over Gasper creek, previously reported, have been rejected, and new bids are wanted. Address J. C. Sims, Bowling Green.

Hendricks—Oil Wells.—The Standard Oil Co., lately mentioned as sinking oil wells, has leased 50,000 acres of land in Magoffin county, and will sink five wells.

Lexington—Fire Extinguishers.—The Lexington Roller Mills Co. will probably put in automatic fire extinguishers.

Louisville—Electric-light Plant.—The Louisville Electric-light Co., mentioned in last issue as putting in another dynamo, expects to make large additions in the spring.

Louisville—Publishing.—Theodore Harris, T. Eaton, W. B. Harvey and others have organized the Baptist Publishing House to publish books. The capital stock is \$100,000.

Louisville—Underground Wires.—The Gooch Electric Co., mentioned in last issue as erecting electric-light plant, has asked for permission to place its wires underground.

Louisville—Wagon Factory.—A bill has been introduced in the legislature authorizing the Kentucky Wagon Manufacturing Co. to issue \$200,000 of bonds.

Manchester—Mineral and Timber Land.—Eastern capitalists have purchased recently 20,000 acres of timber and mineral land from Bentley & Garrison.

Middlesborough—Brick-yard.—The Watts Steel & Iron Co. will start fire-brick yard, with capacity of 12,000 per day, and a pressed-brick yard with capacity of 40,000 per day.

Newport—Water Works.—A proposition will be made to the Board of Public Affairs of Cincinnati, Ohio, to purchase the Newport Water Works.

Princeton—Iron Mines.—The Princeton Mining & Manufacturing Co. is making arrangements, it is stated, to ship ore from its mines.

Riverside—Saw Mill.—J. W. Howard & Co., of Ford, have purchased the saw mill property of the Martin estate.

Ruckerville—Clothes-pin Factory.—James Bruner has started a clothes-pin factory.

Scottsborough—Lime Works.—Cunningham & Williams will increase the capacity of their lime works, lately mentioned (under Princeton), from 800 to 1,000 barrels daily.

Stanford—Printing Office.—W. P. Walton has put a new engine in his printing office.

Sturgis—Flour Mill.—The Wheelers are being offered inducements to locate their 200-barrel flour mill in Sturgis.

LOUISIANA.

Franklin—Sugar Factory.—John A. Morris and H. B. Baker have purchased a site for the sugar factory previously reported (under Cypremort) as to be probably erected by a stock company.

Minden—Plow Factory.—It is reported that J. M. Robinson and A. T. Reed will start a plow factory.

Morgan City—Shingle Mill.—Local parties contemplate the erection of a shingle mill.

Morgan City—Saw and Shingle Mill.—Moore, Gilchrist & Purdy, of Michigan, will erect a saw and shingle mill.

New Orleans—Machine Works.—J. H. McCormick contemplates organizing a stock company to manufacture his patent cotton seed delinier.

New Orleans—Water Works.—Plans are being made to utilize the Exposition water works. The mayor can give information.

New Orleans—Excelsior Factory.—The American Manufacturing Co. has been incorporated with J. M. Gore as president, Jas. Williamson, vice president, and A. L. Moore, secretary, to establish the excelsior factory previously reported. The capital stock is \$20,000.

New Orleans—Electric-light Plant.—Heath, Schwartz & Co., Limited, lately reported as incorporated, will probably put in an electric-light plant during the summer.

Shreveport—Hoe Handle Factory.—A hoe handle factory has been established.

Shreveport—Electric Plant.—The Shreveport Railway & Improvement Co. has let contract for its plant to the Thomson-Houston Electric Co., of Boston, Mass.

MARYLAND.

Baltimore—Implement Factory.—The Sinclair-Scott Manufacturing Co., reported in last issue as incorporated, succeeds the Sinclair Manufacturing Co., manufacturer of agricultural implements.

Baltimore—Electric-light Plant.—The Woodberry & Belt Electric-light & Power Co., mentioned in last issue, will commence the erection of plant as soon as charter is granted by the legislature.

Baltimore—Lime Works.—Samuel James, of 19 old Frederick road, has petitioned the city council for authority to erect and operate five lime kilns.

Baltimore—Bridge.—A resolution has been introduced in the city council directing the city commissioner to prepare plans and estimates for bridging Monroe street over the Western Maryland and Baltimore & Potomac Railroads.

Baltimore—Motor Works.—The Baxter Electric Motor Co., reported in last issue as incorporated, has purchased the works of the Baxter Electric Manufacturing & Motor Co. for \$110,000.

Bel Air—Hedge Fences.—The Harford County Hedge & Wire Fence Co. has completed its organization with Garrett Amoss as president; F. W. Baker, secretary; N. L. Mitchell, treasurer, and J. W. Moore, superintendent. It will operate under patents of the National Hedge & Wire Fence Co.

Bel Air—Water Works, etc.—The stock company reported in last issue as organized to construct water works has been incorporated as the Bel Air Water & Light Co. with O. S. Lee, president; G. R. Cairnes, secretary, and Richard Dallam, treasurer, to furnish water and gas and electric lights. It has purchased the Gough water-power. The capital stock is \$50,000.

Ellicott City—Bridges.—A bill has been introduced into the legislature to authorize Howard county to issue \$7,000 of bonds for rebuilding bridges.

Hagerstown—Ice Factory.—J. S. Nicodemus, Dr. A. S. Mason, H. H. Keedy and others have incorporated the Hagerstown Ice Co. to

manufacture ice. Machinery will be furnished by the Frick Co., of Waynesboro, Pa. The capital stock is \$50,000.

Keedysville—Creamery.—Moser & Flock, of Myersville, will operate the creamery recently erected by C. M. Keedy.

Keedysville—Flour Mill.—W. D. Hughes has ordered some new machinery for his flour mill.

New Hope—Coal Mine.—The Union Mining Co. is having surveys made to open a new coal mine.

Washington, D. C.—Underground Wires.—Superintendent Miles, of the District telegraph and telephone service finds that it will cost \$30,700 more than the \$250,000 of the original estimate, previously reported, to place the telephone and fire-alarm wires underground, and recommends the adding of this sum.

Westover—Flour Mill.—M. W. Ruark is putting additional machinery in his flour mill.

Williamsport—Flour Mill.—F. H. Darby has let contract for a roller flour mill of from 50 to 60 barrels daily capacity.

MISSISSIPPI.

Aberdeen—Cotton Mill.—It is reported that the proposition of the New England parties to subscribe for \$100,000 of the stock of a \$200,000 company to build the cotton mill mentioned in last issue has been accepted.

Aberdeen—Spoke Factory.—Charles W. Gibson and others will start a spoke factory.

Bogue Chitto—Dry-kiln.—Moreton & Helms are building a new dry-kiln.

Bogue Chitto—Saw Mill.—Tyler & Reed have purchased the saw mill of W. J. Van Zandt and are putting in new boilers.

Booneville—Canning Factory.—A canning factory will, it is stated, be erected.

Cumberland—Manufacturing, etc.—A bill has been introduced in the legislature at Jackson to incorporate the Cumberland Land, Lumber, Improvement & Manufacturing Co.

Greenville—Bridge.—C. M. Johnson, clerk board of supervisors, is receiving bids for constructing a bridge across Lake Robinson.

Holly Springs—Knitting Factory.—The erection of a knitting factory is reported as contemplated.

Holly Springs—Broom Factory.—A broom factory has been established it is reported.

Meridian—Machine Works.—John T. O'Ferrall and J. L. Hughes are endeavoring to organize a \$50,000 stock company to manufacture boilers, engines and saw mills.

Pass Christian—Artesian Well.—The Artesian Well Co. has sunk a well.

Vicksburg—Saw Mill.—Ouilette & Co., of Canada, will probably build a saw mill. William Murphy can give information.

West Point—Manufacturing.—S. L. Hearn, J. H. McCord, F. G. Hawkins and others have incorporated the West Point Manufacturing Co.

NORTH CAROLINA.

Asheville—Soap Factory.—A soap factory is projected.

Blue Wing—Gold Mine.—E. W. Warner has discovered gold on the land of R. T. Amis, near Blue Wing, and will probably develop.

Burlington.—The building mentioned in last issue as erected by the Burlington Coffin Co. is for office and storage purposes.

Charlotte—Lumber Mill.—F. W. Ahrens will put a flooring machine in his lumber mill this spring.

Clinton—Pulp Mill.—A. F. Johnson is investigating the manufacture of paper pulp.

Coleridge—Ginney.—The Enterprise Manufacturing Co., previously reported as to build a new picker-house and make other additions to its cotton mill, has erected a cotton ginney.

Danbury—Mines.—Parties controlling about 60,000 acres of mineral land in Stokes county contemplate forming a company, probably to develop.

Greensboro—Flour Mill.—J. W. Griffith is organizing a stock company to build the roller flour mill lately mentioned.

Greenville—Canal.—It is proposed to organize a \$100,000 stock company to drain the Grindale creek section by cutting a canal. J. B. Little can give information.

Lincolnton—Iron Mines.—The Northern parties lately mentioned as leasing iron ore lands and to develop, have leased the iron properties of Smith & Pain and the estate of J. W. Derr.

Madison—Tobacco Factory.—John L. King has, it is reported, purchased a tobacco factory and will operate.

Mecklenburg County—Gold Mine.—T. J. Warren and another party have purchased land recently and are developing gold.

Mooresville—Granite Quarries.—William Gregory, J. R. Gill and A. W. Bedell have secured an option on the granite quarries of R. H. McNeely, mentioned in last issue under Statesville.

Nashville.—Gold Mine.—T. P. Braswell is reported as developing a gold mine.

New Berne—Saw Mill.—J. W. and J. R. Moody will put a new boiler in their saw mill.

New Berne—Electric-light Plant.—The New Berne Electric-light & Power Co., previously reported, has let the contract for its building to J. A. Simpson.

Panacea Springs.—The report referred to in last issue that J. Carr was one of the purchasers of the Panacea Springs property is a mistake.

Raleigh—Wagon Factory.—The North Carolina Wagon Co., mentioned in last issue, has decided to increase capital stock to \$40,000 for working capital.

Randleman—Electric-light Plants.—The Randleman Manufacturing Co. has put an electric-light plant of 75 lights in its C. C. Randleman mill and a plant of 150 lights in the Plaidville mill.

Shelby—Planing Mill.—Mr. Cowart will add planing machinery.

St. Paul's—Grist Mill and Gin.—L. Shaw will rebuild his grist mill and cotton gin mentioned in last issue as burned.

Wilmington—Foundry and Machine Works.—S. W. Skinner & Co. is the name of the firm lately reported as erecting foundry and machine works.

Wilmington—Water Works.—The Clarendon Water Works Co. will probably put in a filtering apparatus at its water works.

Winston—Land.—The Winston Electric Light & Street Railway Co. has optioned land in North-east Winston.

SOUTH CAROLINA.

Abbeville.—N. C. McGowan, T. P. Cothran, E. A. Templeton and others have incorporated the Abbeville Land & Improvement Co. to deal in real estate, with a capital stock of \$12,000.

Batesville—Cotton Factory.—The Batesville Cotton Factory is putting in some additional machinery.

Charleston.—The Clotworthy Carpet Cleaning & Upholstering Co. has been incorporated by James Clotworthy and Edward W. Hughes.

Columbia—Lumber Mill, etc.—J. H. Counts will, it is reported, erect a lumber mill and grist mill at Irmo, a new town on the Columbia, Newberry & Laurens Railroad.

Conway—Cotton Factory.—J. H. Chadbaum, Jr., Dr. E. Norton, C. P. Quattlebaum and others are organizing a \$40,000 stock company to erect a cotton factory.

Crawfordville—Cotton Factory.—Harris & Dillard are the purchasers of the Crawfordville factory property lately mentioned, and intend erecting a new building and fitting with latest improved machinery for the manufacture of cotton yarns.

Georgetown—Lumber Mill.—W. C. Lloyd, of Philadelphia, Pa., has purchased the Wickersham lumber mill.

Georgetown—Barrel Factory.—L. E. Ehrlich, R. Dozier and H. Kaminski have chartered the Georgetown Barrel Manufacturing Co. to erect the barrel factory previously reported. The capital stock is \$10,000.

Georgetown—Shingle Mill.—Louis S. Ehrlich, William O. Boenski and H. Kaminski have incorporated the Palmetto Cypress Co. to manufacture and sell lumber and shingles. The capital stock is \$15,000.

Greenville—Candy Factory.—W. M. Boyst has enlarged his candy factory.

Grindall—Saw and Grist Mill and Gin.—John W. Eison will rebuild his saw and grist mill and cotton gin lately reported as burned.

Hawthorn—Saw Mill.—A. J. Heath has erected a saw mill.

Lexington—Cotton Mill.—The company recently reported as being organized to erect a cotton mill has been incorporated as the Lexington Manufacturing Co. by W. P. Roof, C. M. Efrid and Allen Jones to manufacture cotton and other fibrous materials. The capital stock is \$50,000.

Marion—Electric-light Plant.—The Marion Cotton Mill Co. has put an electric-light plant in its mill.

Perry—Cotton-seed Oil Mill.—Efforts are being made to organize a stock company to establish a cotton-seed oil mill.

Sumter—Machine Shop.—Parties are prospecting with a view to erecting the machine shop lately mentioned. C. S. Matthiessen can give information.

Yorkville—Electric-light Plant and Water Works.—The city is considering the erection of an electric-light plant and the construction of water works. Mayor J. F. Hart can give information.

TENNESSEE.

Charleston—Flour and Saw Mills, etc.—It is reported that a company has purchased the Curry farm and will erect a flour mill, saw mill and sash, door and blind factory.

Chattanooga—Machine Shop.—The Chattanooga Foundry & Pipe Works is putting a radial drill press in its machine shop.

Chattanooga—Crate Factory.—R. W. Stivers has put machinery in his planing mill for the manufacture of crates.

Chattanooga—Foundry and Machine Works.—The Chickamauga Foundry & Machine Works has been organized with G. W. Wheeland, president; Frank Whiteside, vice-president, and C. L. Brown, secretary. It has purchased the patterns, etc., of the foundry and machine business of G. W. Wheeland, and will erect two buildings, one 60x60 feet and the other 60x100 feet. The capital stock is \$50,000.

Chattanooga—Iron Furnaces, etc.—The Southern Iron Co., operating iron furnaces, previously reported as to issue bonds, has executed a deed of trust for \$400,000 to cover the bonds.

Chattanooga—Paving.—A movement is on foot to pave Whiteside street with brick at a cost of about \$45,000. F. J. Bennett can give information.

Clarksville—Bending Works.—The Union Bending Works, of Collins, Ohio, has submitted a proposition to locate a carriage material factory in Clarksville. It has recently purchased 1,900 acres of timber land in Montgomery county.

Cleveland—Land.—A syndicate is reported as purchasing the Springs property of B. G. Willis for \$20,000.

Dayton—Shirt Factory.—Frank A. Jaberg will start a shirt factory.

Dunlap—Shingle Factory.—J. H. P. Minton contemplates starting a shingle factory.

Flintville—Distillery.—Bruce Bros. will probably erect another distillery.

Goodlettsville—Saw Mill.—J. E. Scruggs will erect a saw mill.*

Graysville—Coal Mine and Coke Ovens.—The Piedmont Coal & Land Co., mentioned in last issue, is building 10 coke ovens. It expects to open a new coal mine in the spring.

Greenville—Water Works.—The construction of a system of water works at an estimated cost of from \$25,000 to \$35,000 is contemplated. It is proposed to take the supply from Horse creek. The mayor can give information.

Jackson—Plumbing.—The Jackson Plumbing Co. has been organized with N. S. Sherman, general manager.

Jasper—Land.—Parties have obtained a 90 days' option on the land of J. Pryor, referred to in last issue.

Knoxville—Sash, Door and Blind Factory.—The Repass Furniture Factory, previously reported as to be probably put in operation, has been purchased by Stephenson & Getaz, who will put in new machinery to operate as a sash, door and blind factory.

Knoxville—Nail Mill.—The Knoxville Iron Co. states that its nail mill, mentioned in last issue, will not be put in operation at present.

Knoxville—Water Works.—The Emile Woltman Water Co., lately mentioned as to build water works at West Nashville, will probably receive contract to furnish 60 hydrants for 20 years to North Knoxville.

Knoxville—Sash and Blind Factory.—B. S. Williams has leased the sash and blind factory of J. A. Galyon & Son.

Knoxville—Foundry and Machine Shop.—Day & Fair have, it is stated, purchased land on the Knoxville & Ohio Railroad, and will establish a foundry and machine shop.

Knoxville—Woolen Mill.—The Knoxville Woolen Mills will, it is reported, double the capacity of its mill, erecting a building three stories, 60x300 feet, at a cost of \$20,000.

Memphis—Cotton Mill.—The Bluff City Cotton Mills, lately mentioned, added 1,632 spindles and will put in additional picker room machinery; also about 20 more looms.

Memphis—New Industries.—The secretary of the Commercial Association has received letters from parties desirous of locating furniture and washing machine factories, brass foundry, machine shops and a lumber and shingle mill.

Memphis.—The Blanton Stone & Lumber Co. has been incorporated.

Memphis—Publishing.—The Tracy Printing Co. will publish an illustrated newspaper.

Morristown—Land.—Robert G. Muse, of Parsons, Kansas, has purchased the Williams farm near Morristown for \$10,000.

Mossy Creek—Woolen Mill.—The Mossy Creek Woolen Mill Co. will put in looms in its woolen mill.

Nashville—Electric-light Plant.—The Capitol Electric Co., mentioned in last issue as purchasing the property of the Nashville Light & Power Co., will enlarge its plant.

Nashville—Saddlery.—The Nashville Saddlery Co., lately mentioned as burned out, has secured another building for its saddlery.

Nashville—Foundry and Machine Works.—The Waters-Allen Foundry & Machine Works has been chartered by W. L. Waters, M. F. Allen, William Morrow and others.

Pleasant View—Tobacco Factory.—A tobacco factory is being built by G. A. Winters.

Pulaski—Saw Mill.—T. W. Pitman & Co. are enlarging their saw mill.

Rockwood—Brick Works.—H. H. Squires & Co. will start the brick works mentioned in last issue.

Roslin—Timber Land.—Judge Hugerford and others, of Cleveland, Ohio, have purchased 50,000 acres of timber land and intend developing.

Sherman Heights—Wagon Factory.—Berry Hill, of Ooltewah, will start a carriage and wagon factory.

South Pittsburg—Water Works.—The Deptford Land & Improvement Co. contemplates constructing a system of water works.

Spring City—Publishing.—L. J. Oldham will publish the Enterprise.

Tennessee—Saw Mill.—A saw mill is being erected at the new town of Harriman, previously reported as to be built by the East Tennessee Land Co., of 96 Broadway, New York, N. Y.

Trenton—Foundry and Machine Shop.—It is stated that the company mentioned in last issue as being organized to establish foundry and machine shops, has organized with a capital stock of \$25,000.

Victoria—Planing and Grist Mill.—Brophy & Brown will start planing and grist mill.

Winesap—Saw Mill.—Harry Reese has erected a saw mill.

TEXAS.

Abilene—Nursery, etc.—The Abilene Nursery & Fruit Growing Co. has been incorporated by J. M. Dougherty, W. L. Gatlin, Jr., Otto W. Steffens and others with a capital stock of \$5,000. This company may erect the canning factory previously reported.

Abilene—Water Works.—A \$15,000 stock company will probably be organized to purchase or lease the present water works and enlarge same. It is intended to sink the artesian wells lately mentioned and construct a new reservoir. O. W. Steffens can give information.

Austin—Nail Factory.—A proposition has been received by the Board of Trade from parties offering to locate a nail factory in Austin if given a site and a bonus of \$100,000.

Beeville.—An English syndicate is reported as to investigate with a view to making large investments.

Brazoria—Packing-house.—The Brazoria County Packing Co. has been incorporated; capital stock is \$50,000.

Coleman County—Coal Mines.—The Messrs. Huffman, of San Angelo, will probably organize a stock company to develop their coal mines.

Corrigan—Soda Water Works.—The soda water works of Dr. George are being enlarged.

Corrigan—Ice Factory.—An ice factory is talked of.

Corsicana—Gas Works.—Simkins and Neblett have purchased the Corsicana Gas Works for \$17,180.

Dallas—Medicine Factory.—The Yowell Electric Medical Co., lately reported as incorporated, will manufacture medicines.*

Dallas—Buggy Factory.—It is reported that arrangements have been completed for the removal of the Kalamazoo (Mich.) buggy factory, previously reported, to Dallas. The Dallas Manufacturers' Aid Improvement Co. can give information.

Dallas—Packing House, Ice Factory, etc.—The Dallas Dressed Beef & Packing Co. has been incorporated with J. S. Armstrong, president; F. H. Doran, vice-president, and William Doran, secretary, to establish the packing house previously reported. A four-story brick building, fronting 275 feet on Alma street, will be erected, and will include departments for slaughtering, curing, chilling and lard extracting. An ice factory, to have a daily capacity of 20 tons and a refrigerating capacity of 70 tons, and a sausage factory will be operated. The capital stock is \$250,000.*

Dallas—Artesian Well.—Contract for sinking another artesian well will be let shortly. Mayor W. C. Connor can give information.

Decatur—Electric-light Plant.—It is reported that an electric light plant will be erected.

Dublin—Medicine Factory.—The W. P. Rose Medicine Co. has been incorporated, with W. P. Rose, president, and W. H. Neel, secretary, for the manufacture of medicine. The capital stock is \$10,000.

Fort Worth.—The Fort Worth Builders' Supply Co. has been incorporated by James Ryan, J. M. Robbins, H. K. Wall and others with a capital stock of \$20,000.

Fort Worth—Publishing.—M. C. Harris will publish the Journal.

Fort Worth—Rolling Mill.—The Texas Rolling Mill Co. has been incorporated with G. E. Beach, president and general manager; J. G. Williams, vice-president; Henry Schwartz, secretary; E. H. Keller, treasurer, and others to operate the rolling mill recently mentioned as moved to Fort Worth by Beach & Durack.

Galveston—Land.—A Denver (Col.) syndicate has purchased \$265,000 of land, and will make improvements.

Harrisburg—Brick Works.—The Harrisburg Brick Works has been incorporated with a capital stock of \$30,000.

Henderson—Clay Mines.—J. F. Dawson will develop the clay lands mentioned in last issue. He purchased 50 acres.

Houston—Sewerage System.—Contracts for the sewerage system previously reported have been awarded as follows: To Jerry Shea, for the Chartres street conduit and La Branch street district work, at \$21,942.73 and \$55,011.86, and to Morley & Ledwell, for the San Felipe street district, \$48,386.09.

Houston—Bridges.—It is stated that three new bridges, 80 feet long, 100 feet long and 70 feet long, will be built over Hall's, Green's and German bayou. J. B. Perkins can give information.

Jacksonville—Canning Factory.—Weltermark & Bagley will enlarge their canning factory.

Johnson City—Publishing.—J. D. Johns, of Marble Falls, contemplates publishing a newspaper.

Laredo—Woolen Mill.—E. E. Day, of Kankakee, Ill., is reported as prospecting with a view to erecting a woolen mill.

McKinney—Ginnery.—The incorporators of the McKinney Cotton Ginning Co., mentioned in last issue as chartered, are D. F. Garrish, J. S. Heard, W. B. Newsome and others. Capital stock is \$40,000.

Millican—Publishing.—W. D. Ward will publish a newspaper.

Paris—Furniture Factory.—J. W. Rodgers & Co. are erecting a furniture factory.

Pilot Point—Machine Works.—A company has been, it is reported, organized to manufacture the Williams cotton distributor.

Quintana—Canal.—The Brazos, Union Bayou & Bernard Canal Co. has been incorporated by E. M. House, Z. T. Fulmore, W. B. McLaughlin and others to build canal from East Union Bayou to the Bernard river, which is to be made navigable. The capital stock is \$10,000.

San Antonio—Tannery.—The incorporators of the San Antonio Tanning Co., mentioned in last issue as chartered with a capital stock of \$100,000, are C. J. Mueller, Alfred Barbeck, L. Houerman and others.

Sulphur Springs—Street Improvements.—The city has issued \$10,000 of bonds for street improvements.

Sulphur Springs—Flour Mill.—Gunn & Ashcroft are reported as to remodel their mill to the roller system.

Taylor—Cotton and Woolen Mills.—The establishment of cotton and woolen mills is projected. J. A. Gans can give information.

Vernon—Elevator and Flour Mill.—A \$75,000 stock company has been organized to build the flour mill and grain elevator lately mentioned. L. C. Heare can give information.

Waco—Medicine Factory.—The Waco Medicine Co. has been incorporated.

Waco—Collar Factory and Tannery.—It is reported that sufficient stock has been taken to secure the removal of the horse-collar factory and tannery of J. H. Sites from Terrell to Waco; lately mentioned.

Weatherford.—A board of trade is to be organized.

VIRGINIA.

Alexandria—The Security Investment Co. has been incorporated to deal in real estate with a capital stock of \$50,000.

Alexandria—Flour Mill.—The Isaac Harter Co., of Fostoria, O., have, it is reported, offered to expend \$150,000 in remodeling the old Pioneer Flour Mills if donated that property and exempted from taxation.

Alexandria—Harness Factory, etc.—E. Latham, E. A. Sawyers, F. E. Alexander and others have incorporated the United States Harness & Manufacturing Co., to manufacture buckles, bridles and harness.

Amherst—Slate Quarries.—It is reported that the Amherst slate quarries will be developed.

Ashland—Street Improvements.—A bill will be introduced into the legislature at Richmond to allow the town of Ashland to issue bonds for improving the streets.

Big Island—Land.—A land and improvement company has been organized by E. B. Shaw and others and has purchased 270 acres of land for \$11,750.

Big Island—New Industries.—It is stated that a wall paper manufactory, an oil cloth manufactory and a bark mill will probably be established. E. B. Shaw can give information.

Buchanan County—Coal Mines.—The Big Ax Coal, Coke & Iron Co., mentioned in last issue as applying for a charter, with J. D. Imboden, of Abingdon; L. T. Maury, J. D. Blair and others as incorporators, is organized to develop 18,000 acres of coal land in Buchanan and Russell counties, located 6 miles from the Clinch river. The capital stock is to be not less than \$10,000 nor more than \$2,000,000.

Buena Vista—Land.—John Sheridan, H. H. Myers and F. T. Glasgow, of Lexington, men-

tioned in last issue as purchasing land from R. I. White, have optioned 150 acres of land owned by J. H. Paxton.

Buena Vista—Fence Factory.—The Buena Vista Fence Co. has been organized with W. F. Pierson, of Lexington, president; John McQuaide, of Staunton, vice-president, and W. H. H. Lynn, of Staunton, treasurer, to erect the fence factory lately mentioned for the manufacture of farm, garden and yard fence.

Buena Vista—Brick-yard.—Messrs. Waddy & Johnson, of Greenville, contemplate starting a brick-yard.

Chesterfield—Iron Mines.—A bill has been introduced into the legislature at Richmond to incorporate a company to develop iron mines.

Clifton Forge—Electric-light Plant.—A bill has been introduced in the legislature at Richmond to incorporate the Clifton Forge Electric Light & Power Co.

Clifton Forge.—A bill has been introduced in the legislature at Richmond to incorporate the Clifton Forge Co.

Danville—Nursery.—The Danville Nursery & Greenhouse Co. operates the nursery mentioned in last issue. It expects to build another greenhouse.*

Falmouth—Grist Mill.—J. S. Bloxton has erected a grist mill.

Fredericksburg—Bridge.—The bill previously reported as introduced into the legislature at Richmond to allow the town of Fredericksburg to issue \$20,000 of bonds to build a bridge across the Rappahannock river, has been approved by the governor and become a law.

Graham—Furniture Factory.—The Graham Land & Improvement Co. is negotiating to secure the erection of a furniture factory.

Graham—Telephone Line.—The Graham Land & Improvement Co. contemplates constructing a long-distance telephone line.*

Graham—Bridges.—The Graham Land & Improvement Co. will build 7 highway bridges.

Graham—Water Works, etc.—The Graham Land & Improvement Co. will construct a system of water works, to have a capacity of 10 M gallon per hour; 25 M feet of 6-inch iron water main will be laid. The company will also lay 35 M feet of 12 inch sewer pipe.*

Graham—Ice Factory.—The Graham Land & Improvement Co. contemplates erecting an ice factory, to have a daily capacity of 10 tons.*

Harrel's Store—Saw Mill.—A saw mill is to be erected, and will be operated by W. T. Hall.

Harrisonburg—Tannery.—J. P. Houck has organized the J. P. Houck Canning Co. to enlarge and operate his tannery.

Lexington.—It is rumored that an English syndicate is negotiating to buy out the Rock-bridge Co., of Lexington, which is building the new industrial town of Glasgow.

Luray—Iron Mines.—The Blue Ridge Iron Co., F. R. Beidler, president, is developing its iron mines at Honey Run Trestle.

Lynchburg—Bottling Works.—C. B. Shafer, of Washington, D. C., states that there is no immediate prospect of the location of his bottling works at Baker Springs, mentioned in last issue as probable.

Lynchburg—Bridge.—The construction of a bridge across the James river to connect Grace street, on Diamond Hill, with Twelfth street is being considered by the city council.

Mount Crawford—Bridge.—D. A. Plecker will build a bridge across North river.

New Market—Tannery.—It is reported that a tannery will be established.

Newport News.—A bill has been introduced into the legislature at Richmond to incorporate the Newport News, Hampton & Old Point Comfort Telephone Co.

Norfolk—Canal.—The Norfolk & North Carolina Canal Co. has been authorized by the legislature to increase its capital stock to \$1,000,000 and issue bonds for improving canal, as previously reported.

Pulaski City—Iron Ore Land.—Geo. W. Palmer, president Roanoke & Pulaski Mineral Co., has purchased another tract of iron ore land near Pulaski City for \$100,000.

Pulaski City—New Industries.—The capital has been subscribed, it is reported, for the establishment of a rolling mill and galvanizing works to cost \$250,000, a carriage and door and sash factories.

Pulaski City—Street Improvements.—Money has been appropriated for grading and laying streets. The mayor can give information.

Roanoke—Iron Works and Rolling Mill.—Efforts are being made to establish iron works and another rolling mill. The Roanoke Land & Improvement Co. can give information if there is anything definite.

Roanoke—Brick-yard.—E. A. Winfree will start a brick-yard.

Roanoke—Ice Factory.—A \$40,000 stock company has been organized to erect an ice factory and let contract for a 15-ton plant to the Richmond Ice Machine Co., of Richmond, Va.

Roanoke.—The Virginia Development Co., lately mentioned, writes that it does not contemplate increasing its capital stock.

Roanoke—Mining.—The Blue Ridge Mineral & Development Co. has been incorporated.

Salem—Land.—T. J. Shickle, D. B. Strouse, Robert Logan and others are the purchasers of the land of Charles W. Burrell and J. P. Houtz, mentioned in last issue. The property includes 315 acres, and the price was \$200 per acre.

Salem—Ice Factory.—Contract for the 10-ton ice plant, mentioned in last issue, has been awarded to the Richmond Ice Machine Co., of Richmond.

South Boston—Buggy Factory.—The Barbour Buggy Co. has enlarged its factory.

Suffolk—Ice Factory.—G. A. Moore, of Havre de Grace, Md.; J. W. Wright and E. E. Jones, of Suffolk, are endeavoring to organize a stock company to erect an ice factory to cost \$17,000.

Virginia—Saw Mill.—F. W. Pusey, of Gwynneville, Ind., expects to organize a stock company to erect the saw mill lately mentioned at Beckley's Mill.

Windsor Station—Peanut Cleaning Factory.—A peanut cleaning factory will probably be erected.

Wise County—Coal Mines.—G. A. Smith, A. B. Ragan, J. C. Stamps and others, of Rogersville, Tenn., have purchased 6,000 acres of coal lands, as lately stated, and also 10,000 acres additional.

Wytheville—Land.—The Wytheville Development Co., reported in last issue, has, it is stated, optioned land in and around Wytheville.

WEST VIRGINIA.

Benwood—Iron Furnace.—The Benwood Iron & Nail Co., mentioned last week as to build 150-ton iron furnace, has increased its capital stock to \$50,000.

Capon Bridge—Flour Mill.—A. Hook contemplates remodeling his flour mill to the roller system.

Fairmont—Coal Mines and Coke Ovens.—The Linden Coal & Coke Co. has been incorporated in Chicago, Ill., it is stated, to operate coal mines and coke ovens to miles north of Fairmont. The capital stock is \$50,000.

Grafton—Ice Factory.—Zeck & White contemplate manufacturing ice.

Huntington.—A board of trade will probably be organized.

Kingwood—Creamery.—The erection of a creamery is probable.

Kingwood—Furniture Factory.—A furniture factory is projected.

Parkersburg—Cracker Factory.—The Perfection Baking Co. is the name of the company lately mentioned as incorporated by G. W. Thompson, A. B. Graham, J. A. Wetherall and others for the manufacture of crackers. The capital stock is \$15,000.

Rock Cave—Grist Mill.—G. H. Wilson will rebuild his grist mill lately reported as burned.

Romney—Flour Mill.—A company is reported as being organized to erect a roller flour mill.

Weston—Machine Shops.—The Clarksburg, Weston & Midland Railroad Co. contemplates building machine shops during the present year.

Weston—Pump.—An appropriation of \$2,000 will probably be made by the legislature at Richmond for the erection of a pump at the Hospital for the Insane.

Wheeling—Land.—F. Lobenstein has sold his property on Chapline street to the Wheeling Railway Bridge & Terminal Co., represented by Messrs. Rinehart & Tatum, for \$18,000. The land is to be used to connect the railway company's lines with the Baltimore & Ohio Railroad.

Wheeling—Tool Factory.—Matthew McDermott, of Taylorstown, Pa., is investigating with a view to locating a tool factory in Wheeling.

Wheeling—Planing Mill.—Wood Bros. have formed a stock company, and will remodel a building recently purchased for a planing mill.

Wheeling—Sheet Mill.—The Whitaker Iron Co. has let contract for the building, 60x160 feet, mentioned in last issue, to Beltz, Flading & Co. It is stated that the building is intended for the manufacture of sheet steel ceilings.

BURNED.

Bronson, Fla.—The saw and grist mill and cotton gin of W. J. Epperson; loss about \$16,000.

Columbia, S. C.—The saw mill of John Crosby, 17 miles south of Columbia.

Columbus, Ga.—The drying-room of the Eagle & Phoenix Manufacturing Co.; loss estimated at \$6,000.

Dallas, Texas.—The Dallas county courthouse; loss reported at \$150,000.

Fernandina, Fla.—Glaiber's saw and planing mill; loss about \$5,000.

Grindall, S. C.—The saw and grist mill and cotton gin of John Eison. Will rebuild.

Kauawha County, W. Va.—Leach's saw mill on Falling Rock creek damaged by a boiler explosion.

Kershaw, S. C.—The saw mill of W. B. Twitty.

Louisville, Ky.—The collar factory of Harrison & Gathright; loss about \$8,000.

Monroe, La.—The Central Hotel; loss reported to be \$22,000.

Nashville, N. C.—V. B. Batcheler's saw mill and dry-kiln.

Pamlico County, N. C.—L. T. McCatter's mill damaged by boiler explosion.

Pittsboro, N. C.—Dry-kiln at B. Noone's lumber mill.

Randolph Co., Ala.—Grist mill and cotton gin of E. M. Lovvorn, of Bowdon, Ga.

Retro, Tenn.—The saw mill of R. S. Coleman will probably be rebuilt.

Richmond, Ky.—The Bonanza Mill collapsed.

Rockford, Tenn.—The Rockford Cotton Mills damaged about \$6,000.

Stony Creek, Va.—The saw mill of Mr. Shrade.

Union Parish, La.—The saw mill and cotton gin of J. H. Edwards.

The cotton gins of Barber & Waters, Richburg, S. C.; Mrs. R. M. Stevenson, Albion, S. C.; John T. Morgan, near Barnes Station, S. C.; J. P. Ratliff, Anson county, N. C.; F. M. Ellison, near Easley, S. C., and Berry Parks, near Goldsboro, N. C., have been burned.

Building Notes.

Abbeville, Ga.—A branch of the Southern Building & Loan Association of Atlanta has been organized.

Abbeville, S. C.—The Abbeville Land, Loan & Improvement Co. has been chartered with J. Allen Smith, president.

Abingdon, Va.—It is stated that the Norfolk & Western Railroad Co. (office, Roanoke) will erect a station.

Americus, Ga.—R. F. and E. E. Nysewander have incorporated the Southern Lumber & Improvement Co. to build houses.

Americus, Ga.—Hotel.—Negotiations are said to have been closed for the erection of the hotel recently mentioned as to be built by the Americus Manufacturing & Improvement Co.; cost to be \$75,000.

Anniston, Ala.—Mr. McClanahan contemplates the erection of a school building.

Anniston, Ala.—The Anniston Building Co. has been organized with J. D. Foster, secretary.

Anniston, Ala.—F. E. Baker has contract for the erection of the brick building of C. Nonnenmacher, mentioned last week.

Anniston, Ala.—The Barbour Machine Works contemplates the erection of a brick warehouse 50x100 feet.

Asheville, N. C.—Bids will soon be invited for the erection of the United States public building.

Atlanta, Ga.—A. McGilvray has secured the contract for enlarging the county courthouse recently referred to for \$19,950.

Atlanta, Ga.—Residences are reported as contemplated by Miss Eva Stowe, C. T. Brockett, J. W. Pinson, J. W. Avery and Alfredo Barilo.

Atlanta, Ga.—Hotel.—A. McC. Nixon, architect, has prepared plans for a hotel building 70x125 feet, four stories in height, to contain electric bells, freight elevator, steam and furnace heat, etc.; cost about \$12,000.

Baltimore, Md.—John W. Albaugh contemplates improving the Lyceum Theatre.

Baltimore, Md.—A site has been purchased for the new college building to be erected by the Calvert Hall (R. C.) Academy.

Baltimore, Md.—James B. Veatman has secured contract for erecting the public school building previously mentioned, his bid being \$17,130.

Baltimore, Md.—Baldwin & Pennington have prepared plans for the enlargement of the Roman Catholic Cathedral. The cost will be about \$50,000.

Baltimore, Md.—The Phoenix Club contemplates the erection of a club-house to cost about \$40,000 with site; plans by Charles Carson. David Hutzler can give information.

Barbourville, Ky.—Hotel.—It is reported that a hotel is to be erected.

Barnesville, Ga.—The city will appropriate \$10,000 to enlarge the Gordon Institute to double its present capacity.

Beebe, Ark.—Hotel.—George Wyatt will erect the hotel previously referred to.

Bessemer, Ala.—The Berney Land Co., mentioned last week as incorporated, is said to contemplate the erection of several brick buildings, including an opera-house.

Birmingham, Ala.—Hotel.—Ground has been broken for an addition for the Caldwell Hotel.

Birmingham, Ala.—B. Gilraith is said to contemplate the erection of a four-story brick and stone business block, recently referred to, to cost \$25,000, and also a two-story brick store and office building to cost \$6,000.

Bridgeport, Ala.—Hotel.—J. L. Lee has contract for erecting an addition to the hotel.

Brunswick, Ga.—S. C. Caldwell is considering the removal of his college from Rome to Brunswick.

Brunswick, Ga.—A branch of the American Building, Loan & Tontine Savings Association has been organized.

Brunswick, Ga.—A branch of the American Building & Loan Association of Memphis, Tenn., has been organized with D. J. Dillon, president.

Brunswick, Ga.—Glanher & Isaac will erect a building 90x130 feet.

Burkesville, Ky.—Hotel.—A hotel is being talked of. J. J. Alexander can give information.

Chattanooga, Tenn.—The Armour-Cudahy Co., of Chicago, Ill., is reported as to build a warehouse.

Chattanooga, Tenn.—W. A. Ellis contemplates the erection of a store building.

Chester C. H., S. C.—The town has voted to appropriate \$10,000 of bonds for the purpose of erecting a town hall, etc., recently referred to.

Columbia, S. C.—J. S. Verney will receive proposals until March 1 for furnishing iron stairways for the State house.

Columbia, S. C.—The parish of the Church of the Good Shepherd contemplates erecting an industrial school building.

Conowingo, Md.—Hotel.—Another hotel is reported as to be erected by M. F. McDowell.

Cordele, Ga.—G. M. Byne, of Leesburg, will erect a \$10,000 brick building.

Cordele, Ga.—N. T. Skinner invites proposals until February 18 for the erection of a Methodist church, recently referred to.

Cordele, Ga.—The Home Mutual Building & Loan Association is being organized with a capital stock of \$2,000,000 by J. B. Scott, J. E. Bivins, J. C. Street, S. H. Hawkins and others.

Cordele, Ga.—Hotel.—The Cordele Hotel Co. has applied for a charter. S. H. Hawkins, W. W. Collins, G. M. McMillan and others are interested. Capital stock is to be \$50,000.

Covington, Ky.—C. P. Maes, bishop of Covington, informs the MANUFACTURERS' RECORD that the cathedral referred to last week will not be commenced for two years.

Crescent City, Fla.—A stock company is being organized to erect a tabernacle. \$50,000 is reported to have been subscribed.

Crestview, Fla.—J. T. Hughes is reported as to erect a storehouse to cost \$6,000.

Dalhousie, Ga.—A branch of the Mutual Building & Loan Association of Atlanta is to be organized.

Dallas, Texas.—It is said that the Dallas county courthouse, reported in this issue as destroyed by fire, will be immediately rebuilt at a cost of \$200,000.

Dardanelle, Ark.—The Dardanelle Building & Loan Association has been incorporated with a capital stock of \$500,000. Thomas Cox is president.

Decherd, Tenn.—The Christian denomination has organized a church society in Decherd.

Denison, Texas.—A new bank building will be erected to cost \$25,000. W. B. Munson can give information.

Denison, Texas.—John Bennett will erect a residence.

Elgin, Texas.—A stock company is reported as being organized for the purpose of erecting four brick warehouses, with an opera-house overhead.

Elkton, Md.—The town commissioners have been empowered to issue bonds to the amount of \$3,000 for the purpose of erecting a town building.

Eufaula, Ala.—Plans have been made for the new depot recently mentioned to be erected by the Central Railroad & Banking Co. of Georgia (office, Savannah).

Florence, Ala.—An ordinance has been passed by the city council providing for the expending of \$15,000 of city bonds for the purpose of erecting a public school building. A school building for colored children will be erected also; cost to be in proportion to amount of taxes contributed by the colored people.

Florence, Ala.—George T. Patton contemplates the erection of a three-story warehouse 25x100 feet.

Fort Worth, Texas.—J. V. French will erect a residence to cost \$10,000.

Frankfort, Ky.—Bills have been introduced into the legislature to authorize the erection of a courthouse in Covington; to incorporate the Pever Valley Hotel Co. with a maximum capital stock of \$300,000.

Frederick, Md.—Hotel.—A stock company is reported as being organized by Charles E. Trail, D. C. Winebrener, J. D. Baker and others, with a capital stock of \$75,000, for the purpose of purchasing and enlarging the City Hotel.

Frederick, Md.—C. Ruland will erect a warehouse.

Gadsden, Ala.—A new courthouse for Etowah county is being talked of.

Galveston, Texas.—A syndicate of Northern capitalists has purchased over 3,600 city lots and,

it is said, contemplates their improvement by the erection of dwellings.

Georgetown, D. C.—J. C. Vates contemplates erecting 26 brick dwellings.

Goldthwaite, Texas.—A branch of the Southern Home Building Association has been organized.

Graham, Va.—Hotel, &c.—The Graham Land & Improvement Co. will soon commence the erection of a \$35,000 hotel, an office building and 12 residences. Address R. K. Wright, Jr., for information.

Greenville, Ala.—The Montgomery Brewing Co. (office, Montgomery) is said to contemplate the erection of a cold-storage warehouse.

Greenville, S. C.—A branch of the Southern Building & Loan Association of Huntsville, Ala., has been incorporated with Thomas T. Earle, president, and Arthur G. Gower, secretary.

Greenwood, S. C.—Bailey, Barksdale & Co. will erect a three-story brick block, and Blyth & Wells a two-story brick block. Contract for former building has been let.

Hampton, Va.—Elizabeth City county has been authorized to issue bonds to rebuild the county courthouse.

Hazlehurst, Miss.—A school building will probably be erected, in which case bonds will be issued.

Henderson, N. C.—The Farmers' Alliance contemplates the erection of a warehouse.

Houston, Texas.—Henry Freund, general manager Bayou City Street Railway Co., desires bids for the erection of a stable and car building, recently referred to.

Houston, Texas.—A plan is being talked of having for its purpose the purchase of the fair grounds, transforming them into a public park, and erect buildings in it.

Huntington, W. Va.—George Frampton will erect a brick building.

Jacksonville, Fla.—The Congregational Society will erect the church recently referred to, but not at present.

Johnson City, Ky.—Hotel.—A stock company is reported to have been formed for the purpose of erecting another hotel to cost \$25,000.

Kingwood, W. Va.—Hotel.—A summer resort hotel is projected.

Knoxville, Tenn.—Mrs. E. C. Branner will erect a residence; plans by Bauman Bros.

Knoxville, Tenn.—The Central Market Co. contemplates the erection of 4 business houses to cost about \$15,000.

Knoxville, Tenn.—J. M. Thornburg contemplates the erection of a residence.

La Grange, Ga.—J. E. Andrews is contemplating the erection of the opera-house referred to last week.

Laurens, S. C.—A branch of the Southern Building & Loan Association of Huntsville, Ala., has been organized with B. W. Ball, president.

Lawrenceburg, Tenn.—J. A. Simms will erect several houses.

Louisville, Ky.—John H. Bates contemplates the erection of a dwelling to cost \$5,000.

Louisville, Ky.—Contract is reported as to have been let for the erection of Bamberger, Bloom & Co.'s building, previously referred to.

Lynchburg, Va.—The West Lynchburg Land Co. is erecting 25 houses for the Washington Zinc Co. additional to those mentioned last week. It is possible that 100 additional dwellings will be erected.

Macon, Ga.—The Second Presbyterian denomination will build a brick church.

Macon, Ga.—The Central Railroad & Banking Co., of Georgia (office, Savannah) contemplates the erection of a series of brick storage warehouses to cost \$50,000.

Magnolia, Ark.—R. L. Emerson contemplates erecting a business house.

Magnolia, Ark.—The Odd Fellows and Knights of Pythias will, it is stated, erect a hall.

Melbourne, Ark.—A new courthouse for Izard county is to be erected.

Middlesborough, Ky.—Hotel.—The report that contract for the erection of the Cumberland Gap Building & Improvement Co.'s hotel has been let is incorrect.

Mobile, Ala.—The Mobile & Ohio Railroad Co. will erect a warehouse.

Montgomery, Ala.—The Dexter Avenue Methodist congregation has purchased land for the site of its new church.

Murphy, N. C.—A branch of the National Building & Loan Association has been organized with D. W. Dewese, president.

Natchez, Miss.—Walter Rutherford has secured the contract for excavating for the foundation of the Masonic Temple, recently referred to.

Natchez, Miss.—Hotel.—The erection of a hotel to cost about \$50,000 is being agitated. The secretary of the Cotton & Merchants' Exchange can give information.

New Orleans, La.—Plans have been prepared for a police jail. Mr. Stockton, chairman of police committee, can give information.

New Orleans, La.—A bill has passed the House of Representatives at Washington, D. C., appropriating \$800,000 for a site for a public building.

New Orleans, La.—The Southwestern Building & Loan Association has been incorporated with a capital stock of \$20,000,000.

New Orleans, La.—It is reported that John A. Morris intends to erect a twelve-story block on the site of the Kenner Block, recently purchased.

New Orleans, La.—It is asserted that Durant Da Ponte will erect a large office building.

Newton, N. C.—Hotel.—It is said that a company has been organized to erect a hotel.

Piedmont, W. Va.—A branch of the Southern Building & Loan Association, of Knoxville, Tenn., has been organized.

Piedmont, Ala.—Dr. Kinnebrew is erecting a residence. Sharp & Chancellor contemplate erecting four brick store buildings.

Piedmont, Ala.—The Piedmont Land & Improvement Co. is said to have closed contracts for the erection of 40 dwellings to cost about \$54,000.

Pikeville, Tenn.—A building and loan association will probably be organized.

Pine Bluff, Ark.—Fox Bros., G. N. Hart and Lorrello & Denroby are reported as contemplating the erection of new buildings.

Pine Bluff, Ark.—Trulock Bros. state that they will defer the erection of their brick business-house.

Pine Bluff, Ark.—The city will erect a hospital, recently referred to, and also a city hall and market-house, together with a firemen's hall. The mayor can give information.

Pineville, Ky.—The Pineville Commercial Club is talking of erecting an opera-house and office building.

Princeton, Ky.—A branch of the Louisville Saving, Loan & Building Co. has been organized by J. D. Leech, D. H. Gardner and others.

Richmond, Va.—Plans have been prepared by B. J. Black for a store building to be erected by Mitteldorfer Bros.; cost about \$9,000.

Richmond, Va.—The Masonic Home, previously referred to, has been incorporated.

Richmond, Va.—Hotel.—A bill is before the legislature authorizing J. C. Asbury, of Hampton, to erect a hotel for colored persons at Fortress Monroe.

Richmond, Ky.—An opera-house company has been incorporated.

Richmond, Va.—Bills have been introduced into the legislature to incorporate the South Boston Perpetual Building & Loan Association; to incorporate the Baptist Orphanage of Virginia; to incorporate the Bristol Building & Loan Association.

Roanoke, Va.—A site has been purchased for the erection of the Knights of Pythias Hall.

Roanoke, Va.—C. R. Wertz will erect a two-story brick business-house.

Rogersville, Tenn.—Hotel.—Negotiations are said to be pending for the erection of a hotel.

Rusk, Texas.—Hotel.—Theo. Miller will erect a hotel and business block, previously referred to. It is to be 70x125 feet, three stories in height, contain steam heating, an engine, a freight elevator, etc.; cost \$22,000. Miller & Hughes have building contract.

Ruston, La.—The contract for the bank building has been let to C. H. Voss, of Monroe, La.

San Antonio, Texas.—The bids for the erection of the new Texas Insane Asylum, recently referred to, have been rejected, and Larmour & Watson, Austin, have been instructed to prepare new plans.

Sanford, N. C.—A building and loan association is reported.

Seguin, Texas.—L. T. Noyes, of Houston, will receive bids for the erection of a courthouse for Guadalupe county. Bids are to embrace all but iron work. Plans to be seen at office of Diebold Safe & Lock Co., Houston.

South Pittsburg, Tenn.—E. H. Lowman and J. P. Armstrong are erecting business buildings.

St. Helens, Ky.—The Kentucky Union Lumber Co. (office, Clay City) contemplates the erection of 400 houses.

Statesville, N. C.—The Western North Carolina Railroad Co. (office, Salisbury) will erect a station 8x70 feet.

Stanton, Ky.—Powell county has been authorized to issue \$20,000 of bonds to provide for the erection of a courthouse and jail.

Trenton, Tenn.—Hotel.—J. M. Skiles & Co. are said to contemplate erecting a hotel to cost \$15,000.

Tyler, Texas.—L. A. Seacoast has contract for the erection of the tabernacle previously referred to.

Uvalde, Texas.—The Masons are erecting a hall.

Vernon, Texas.—The Vernon Club Association has been incorporated by W. F. Walker and others.

Vicksburg, Miss.—Plans have been prepared for a new building for Rea & Johnson in place of the structure recently reported as burned.

Vicksburg, Miss.—The Mississippi Home Insurance Co. contemplates purchasing a site for a building to be erected some time in the future.

Washington, D. C.—The founding of a Methodist National University is being talked of. Bishop Hurst can give information.

Washington, D. C.—George W. Lang has made plans for the Washington Jockey Club's house, recently mentioned, to be 41x196 feet, two stories high, built of brick, contain electric bells, furnace, speaking tubes, etc.; cost \$10,000. The club will also erect 10 stables, 36x70 feet each, to cost \$6,000. F. M. Draney can give information.

Washington, D. C.—Barnes & Weaver contemplate the erection of dwellings to cost \$5,000 each; George W. Saegmuller will build an addition 25x46 feet to his warehouse; plans have been prepared by A. Goerner & Co. for a four-story warehouse and store 25x127 feet to cost \$30,000.

Waycross, Ga.—Murphy & Rowbotham have the contract for erecting a store building to cost about \$7,500.

Wheeling, W. Va.—Klieves, Kraft & Co. have secured the contract for erecting the Jewish synagogue, recently mentioned, their bid being \$13,800.

Wheeling, W. Va.—The Peabody Insurance Co. will erect a five-story building with 70 feet front.

Wheeling, W. Va.—\$18,000 has been appropriated to purchase a site for the Ohio county jail, previously referred to.

Wilmington, N. C.—The New Hanover county courthouse will probably be enlarged.

Wilmington, N. C.—The Armour-Cudahy Packing Co. (office, Chicago, Ill.) contemplates the erection of a cold-storage warehouse. Jesse Harkness is resident manager.

Winchester, Ky.—M. H. Clay & Co. have contract for the erection of the training stable of Smith & Ewalton.

Winston, N. C.—Hotel.—E. L. Hawks states that he intends to erect the hotel referred to in last issue.

Wolfe City, Texas.—Hotel.—J. E. Streeper is reported as erecting a hotel.

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If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Bank Fixtures.—J. S. Mooring, Anniston, Ala., wants prices on bank furniture and supplies.

Belting and Shafting.—The Stella Grate Works, Chattanooga, Tenn., will want belting and shafting.

Belting.—A. D. Mills & Co., Montgomery, Ala., want net cash prices on belting.

Boiler and Engine.—L. R. T. Dixon, Princess Anne, Md., wants prices on boiler and engine for grist mill.

Boiler and Engine.—W. J. Dunlap, Holloway, Ohio, wants prices on 20 horse power stationary engine and tubular boiler.

Boiler and Engine.—Houchin & Moore, Atlanta, Ga., will purchase a 35 horse-power automatic engine and 50 horse-power boiler.

Boiler and Engine.—The Stella Grate Works, of Chattanooga, Tenn., will want a boiler and engine.

Boiler.—George Wyatt, Beebe, Ark., desires prices on boiler for hotel to be erected.

Boiler, &c.—The Danville Nursery & Greenhouse Co., Danville, Va., will probably want boiler, pipes, etc., for green-houses.

Box Factory, etc.—D. J. McMillan, South Washington, N. C., wants prices on machinery for box and crate factory and lath mill.

Brick-yard.—E. P. King, Hawkinsville, Ga., will purchase machinery for a brick-yard.

Brick-yard.—Teaney, Gitt & Co., Pulaski City, Va., will want a tempering wheel and brick press for brick-yard.

Brick and Tile Works.—The South Carolina Mining & Manufacturing Co., J. G. McNulty, general manager, Yorkville, S. C., will purchase machinery for the manufacture of fire and pressed brick, terra-cotta and tiling.

Bridge.—J. C. Sims, Bowling Green, Ky., will receive bids for constructing an iron bridge across Gasper creek.

Bridges.—The Roanoke Land & Improvement Co., Roanoke, Va., wants plans and estimates on 2 iron bridges, to be built across the Roanoke river, to have 30-foot carriage ways and two 5-foot walks.

Building Material.—A. Y. Sigmon, Hickory, N. C., will erect a fire-proof planing mill and wants building material.

Bung Boring Machine.—S. Bowen's Sons, 150 N. 4th street, Philadelphia, Pa., want a machine for cutting out circular borings (4 or 5-inch) in heads of barrels, the piece taken out to be replaced after filling barrel.

Canning Factory.—E. W. Provine, 805 West Weatherford street, Fort Worth, Texas, wants prices on machinery for a canning factory.

Carpet Lining Machine.—Miller Bros., 125 W. Gervais street, Columbia, S. C., want a second-hand carpet lining machine.

Cement and Sewer-pipe.—M. Mahoney, commissioner of public works, Atlanta, Ga., is receiving bids for furnishing 10,000 barrels of cement and 30,000 feet of vitrified sewer-pipe.

Compress.—Rucker & Pope, Washington, Ga., want prices on a cotton compress.

Cooking Apparatus.—Prices are desired on cooking apparatus for the hotel to be erected by the Hotel Avon Co. at Easton, Md. Address Edward Roberts, Easton.

Cotton Factory.—Harris & Dillard, Crawfordville, S. C., will want latest improved machinery for the manufacture of cotton yarns.

Cotton Mill.—The Bluff City Mills, Memphis, Tenn., will put in additional picker room machinery; also about 20 more looms.

Cotton-seed Oil Mill.—The Barnwell Oil & Fertilizer Co., Barnwell, S. C., will purchase outfit for a cotton-seed oil mill.

Cotton Ties Machine.—The North Carolina Phosphate Co., Raleigh, N. C., want machine for splicing, straightening and riveting cotton ties.

Electric-light Plant.—Heath, Schwartz & Co., Limited, New Orleans, La., will probably want an electric-light plant.

Electric-light Plant.—The Louisville Electric Light Co., Louisville, Ky., expects to make large additions to its plant in the spring.

Electric-light Plant.—Mayor J. F. Hart, Yorkville, S. C., can be communicated with in regard to the erection of an electric-light plant.

Electric-light Plant.—L. R. T. Dixon, Princess Anne, Md., wants prices on an incandescent electric-light plant with capacity for 1,000 lights.

Electric Plants, etc.—F. H. Woodworth, Chattanooga, Tenn., wants prices on electric plants, etc., for hotels.

Elevator.—Heath, Schwartz & Co., Limited, New Orleans, La., will probably purchase an elevator.

Elevator.—J. G. Smith, Barnesville, Ga., wants prices on an elevator for carriage factory.

Elevator.—An elevator will be wanted for the hotel to be erected at Easton, Md., by the Hotel Avon Co. Address Edward Roberts, Easton, Md.

Engine.—The Roanoke & Pulaski Mineral Co., Roanoke, Va., will want an engine.

Engine.—F. W. Pusey, of Gwynneville, Ind., will want a 40 or 50 horse-power engine.

Fertilizer Factory.—The Barnwell Oil & Fertilizer Co., Barnwell, S. C., will purchase outfit for a fertilizer factory.

Flooring Machine.—F. W. Ahrens, Charlotte, N. C., will purchase a 4-sided 14-inch flooring machine with slotted heads, top and bottom. A second hand machine is desired if good.

Gas Engine.—The Yowell Electric Medical Co., Dallas, Texas, will purchase a gas engine.

Gas-holder.—The city of Charlottesville, Va., will purchase a gas-holder. S. B. Woods, mayor, can be addressed.

Grist Mill.—G. H. Wilson, Rock Cave, W. Va., will want an outfit for a grist mill, including 2 sets of burrs, bolting cloth and gearing.

Grist Mill.—L. Shaw, St. Paul's, N. C., will want machinery for grist mill.

Heater.—A heater is wanted by the Hotel Avon Co., Easton, Md., for the hotel to be erected there. Address Edward Roberts.

Hose.—The Osborn-Wolcott Manufacturing Co., Griffin, Ga., wants hose.

Ice Factory.—B. F. Lipscomb, Tarboro, N. C., wants prices on machinery for an ice factory.

Ice Factory.—Zeck & White, Grafton, W. Va., want a 5 to 7-ton ice machine.

Ice Machine.—The Graham Land & Improvement Co., Graham, Va., will want a 10-ton ice plant.

Ice Packing Machine.—The Dallas Dressed Beef & Packing Co., Dallas, Texas, is in the market for an ice packing machine of 35 tons melting capacity.

Iron Pipe.—The Graham Land & Improvement Co., Graham, Va., will want 25 M feet of 6-inch iron water main.

Iron Roofing.—D. A. Plecker, Mount Crawford, Va., wants iron roofing for a bridge.

Iron Roofing, etc.—J. M. Colley, West Point, Ga., wants prices on iron roofing, siding, ceiling, etc.; also other building materials.

Knitting Factory.—W. J. Dunlap, Holloway,

Ohio, wants prices on machinery for knitting hosiery and other machinery for that business.

Lathes and Planer.—Houchin & Moore, Atlanta, Ga., want a 30-inch engine lathe to trim 20 feet, and probably 12-foot planer, speed lathe and pattern lathe.

Lathe.—The Osborn-Wolcott Manufacturing Co., Griffin, Ga., wants a shafting lathe, 20 feet between centers, for chair factory.

Locomotive.—D. J. McMillan, South Washington, N. C., desires to purchase a locomotive engine (for standard-gauge road) on time with security.

Machine Shop.—The West Point Foundry Co., West Point, Ga., wants prices on engine lathe, shafting lathe, milling and boring machine and a 10 foot planer.

Moulding Machinery.—J. H. Poston, Eufaula, Ala., may want moulding machinery.

Moulding Machine.—Henderson & Son, Marietta, Ga., want an 8-inch 4 sided moulding machine. Second-hand preferred if in good order.

Printing Press.—The Yowell Electric Medical Co., Dallas, Texas, will purchase a printing press.

Pulp Mill.—A. F. Johnson, Clinton, N. C., want prices on machinery for paper pulp mill; also information about the business.

Pumping Engines.—The Graham Land & Improvement Co., Graham, Va., will want pumping engines for water works to have a capacity of 10 M gallons per hour.

Rails, Equipment, etc.—D. J. McMillan, South Washington, N. C., desires to purchase rails, trucks, etc., on time, with security, for a ten mile (standard gauge) railroad.

Resawing Machines.—A. Y. Sigmon, Hickory, N. C., will put in resawing machines.

Rock Crusher and Engine.—The Graham Land & Improvement Co., Graham, Va., will want a rock crusher and engine for macadam.

Safe.—J. S. Mooring, Anniston, Ala., wants prices on an iron safe.

Shaft, Door and Blind Factory.—S. H. Keller, Bluffton, Ala., will probably later on want shaft, door and blind machinery.

Saw Mill.—J. E. Scruggs, Goodlettsville, Tenn., will purchase a 16 horse-power saw mill.

Saw and Mill.—D. J. McMillan, South Washington, N. C., wants prices on machinery for a saw and planing mill.

Sewer Pipe.—The Graham Land & Improvement Co., Graham, Va., will want 35 M feet of 12-inch sewer pipe.

Shingle Mill.—J. H. P. Minton, Dunlap, Tenn., will purchase machinery for a shingle mill.

Shingle Mill, etc.—E. P. King, Hawkinsville, Ga., will purchase machinery for the manufacture of shingles and cypress timber.

Soap Factory.—H. H. Harvey, Brunswick, Ga., wants prices on machinery for a soap factory.

Steam Heating Apparatus.—John Sheehan, Navy Yard, Norfolk, Va., will purchase a steam heating apparatus for the barracks to be erected.

Telephone Line.—The Graham Land & Improvement Co., Graham, Va., will want a long-distance telephone plant, including about 60 miles of wire.

Tin.—W. A. Carr, Roanoke, Va., wants prices on block tin.

Tram-road Engines.—Watson & Co., Barnum, W. Va., will put about 10 engines on their tram-road.

Tray Factory.—J. M. Burrows, Hawkinsville, Ga., wants prices on machinery for the manufacture of wooden trays, etc.

Wagon Factory.—Henry H. Myers, Lexington, Va., will probably purchase some machinery for the Wise Wagon Works.

Washer.—The Roanoke & Pulaski Mineral Co., Roanoke, Va., will want to purchase a washer.

Water Works.—J. E. Scruggs, Goodlettsville, Tenn., wants prices on systems to supply hotel with water by hydraulic pressure.

Water Works.—The construction of a system of water works is being considered by Yorkville, S. C. Mayor J. F. Hart can be addressed.

Wheels.—The Climax Fire Brick & Tile Co., Texarkana, Ark., is in market for steam pottery wheels.

Wire.—Chief Hughes, of the Louisville (Ky.) Fire Department, recommends the appropriation of \$20,000 for new wire.

Woodworking Factory.—Turner & Prout, Barnesville, Ga., will need a large lot of wood-working machinery later in the year.

Woodworking Machinery.—A. D. Mills & Co., Montgomery, Ala., want net cash prices on boring machine, cut-off saw, sander and dado head.

FURNACES AND OTHER WORKS.—JONESBORO, TENN., Jan. 25, 1890.—We have a saw mill running, but are not in want of other machinery at present. During the summer we intend to put in two water-power mills, and four or five steam portable mills will also be arranged for, with other machinery for the manufacture of pig, coke and charcoal iron. THOS. WATSON, Gen'l Manager.

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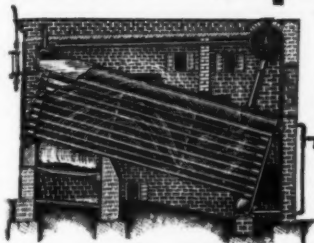
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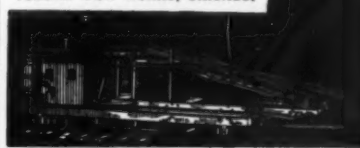
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E. BROWN, G. T. A. KENNETH JONES, Agent.

WANTS.

RELIABLE parties desire to lease a Cotton
Yarn Mill, with from 1,500 to 2,500 spindles.
Either in Middle or Southern States. Water
Power preferred. Address "E. G. E." care
Manufacturers' Record.

WANTED.

A Partner with experience in
Finishing Weavers' Shuttles,
and a small capital, to engage in the manufacture
of Shuttles, &c. Address

JOHN P. LEACH, Littleton, N. C.

POSITION WANTED.

A good book-keeper and general clerk,
who has had experience in different lines,
wants a position in a progressive Southern
town. Energetic and not afraid of hard
work. Highest references, including editor
Manufacturers' Record. Address J. care
Manufacturers' Record, Baltimore.

WANTED.

EXPERIENCED SAWYER,

WITH GOOD

Portable Mill

and Equipment,

INCLUDING SHINGLE MILL.

To locate and cut timber to best advan-
tage on a large tract of timber land (prin-
cipally hardwoods) in Mississippi. Steady
employment given and cash paid for lum-
ber fast as delivered. A good thing to
right parties. AddressW. W. H., 41 Nottingham Building,
CLEVELAND, OHIO.

Receiver's Sale.

THE Gainesville Cotton Mills
Will be Sold March 4th, 1890,
AT PUBLIC SALE.Machinery new. Mill and Warehouse brick.
1,428 spindles. Power, 100 horse power Corliss
engine. An opportunity for a splendid invest-
ment. For particulars address

ROBT E. GREEN, Receiver.

GAINESVILLE, GA., Feb. 4th, 1890.

A Rare Chance for Capitalists.

FOR SALE.

Coal Lands on the B. & O. R. R.

near Clarksburg, W. Va.; also Quarries of Beau-
tiful Marble and other Mineral and Farming
Lands in Virginia. For particulars apply to

CHAS. L. WILSON,

Buchanan, Botetourt County, Va.

MACHINERY, ETC., FOR SALE.

Wishing to dispense with power, we offer fol-
lowing, all in first-class running order: 5 H. P.
Shapley Engine, with 6 H. P. Boiler and Stack.
Metal Router, Metal Planer, Lathe, 2 Circular
Saws and Table. Shafting, Belting. Also Stere-
otype outfit.

PENNA. ENGRAVING CO.

118 S. 7th St., Philadelphia, Pa.

Canning Machinery

FOR SALE.

- 1 40 H. P. Upright Tubular Steel Boiler complete, used one month.
 - 1 23 H. P. Upright Tubular Boiler complete; good order.
 - 1 Shriver Process Kettles, large size.
 - 1 Warfield Cutters, with Counter Shafts.
 - 1 Warfield Silker.
 - 1 Warfield Dipper.
 - 1 Burt Cappers.
 - 1 Burt Kerosene Burners.
 - 1 Power Air Pump, with Air and Oil Tanks.
 - 1 Hand Air Pump, with Oil Tank.
 - 1 Gasoline Burners, with Pots (Hull's Patent)
 - 1 4 H. P. Engine.
 - 40 R. 17-16 Shafting and 35 Pulleys for same.
 - 1 Piping, Valves, Belting, Floor Trucks, Thermometers, Gauges, &c.
 - 1 Stephens Tomato Packer (power).
- This machinery will be sold cheap for cash, either entire or will be broken to suit purchaser. It is in good order and much of it nearly as good as new. Apply to

A. P. EDGE, Darlington, Md.

PROPOSALS.

TREASURY DEPARTMENT, office of the
Supervising Architect, Washington, Febru-
ary 7th, 1890. The time for receiving and open-
ing the proposals for the labor and materials re-
quired for the stone and brick masonry of the
superstructure of the United States Custom
House, Post Office, &c., building at Port Town-
end, Washington, is hereby extended until 3
o'clock P. M. on the 13th day of March, 1890.
JAS. H. WINDRIM, Supervising Architect.SEALED PROPOSALS will be received at the
office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock
P. M. on the 4th day of March, 1890, for furnishing
and putting in place complete one hydraulic pas-
senger elevator for the U. S. Post Office, &c.,
building at St. Joseph, Mo., in accordance with
the specification and drawings, copies of which
may be had on application at this office or the
office of the Superintendent. Each bid must be
accompanied by a certified check for \$100. The
Department will reject all bids received after the
time fixed for opening the same, also bids which
do not comply strictly with all the requirements
of this invitation. JAS. H. WINDRIM, Super-
vising Architect. February 7th, 1890.SEALED PROPOSALS will be received at the
office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock
P. M. on the 7th day of March, 1890, for all the
labor and materials required to complete the
approaches to the U. S. Post Office, &c., building at
Springfield, Ohio, in accordance with the drawing
and specification, copies of which may be had on
application at this office or the office of the Super-
intendent. Each bid must be accompanied by a
certified check for \$100. The Department will
reject all bids received after the time fixed for
opening the same, also bids which do not com-
ply strictly with all the requirements of this in-
vitation. JAS. H. WINDRIM, Supervising Archi-
tect. February 5th, 1890.SEALED PROPOSALS will be received at the
office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock P.
M. on the 28th day of February, 1890, for all the
labor and materials required to fix in place com-
plete the low temperature, Hot Water Heating
and Ventilating Apparatus for the U. S. Post
Office, &c., building at Springfield, Mass., in
accordance with the drawings and specification,
copies of which may be had on application at this
office or the office of the Superintendent. Each
bid must be accompanied by a certified check for
\$200. The Department will reject all bids received
after the time fixed for opening the same; also
bids which do not comply strictly with all the
requirements of this invitation. JAS. H. WIND-
RIM, Supervising Architect. February 1, 1890.SEALED PROPOSALS will be received at the
office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock
P. M. on the 24th day of February, 1890, for fur-
nishing and putting in place complete One Hy-
draulic Direct-Acting Mail Lift, including Pump,
Tanks, Piping, Platform, Screen Work, etc., in
the United States Post Office, Court House, &c.,
building at Augusta, Maine, in accordance with
the drawings and specification, copies of which
may be had on application at this office or the
office of the Superintendent. Each bid must be
accompanied by a certified check for \$100. The
Department will reject all bids received after the
time fixed for opening the same; also, bids
which do not comply strictly with all the require-
ments of this invitation. JAS. H. WINDRIM,
Supervising Architect. January 28th, 1890.SEALED PROPOSALS will be received at the
office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock
P. M. on the 24th day of February, 1890, for cer-
tain additional work, comprising Vestibule at
Mailing Platform, and fitting up Attic over Court
Room of the U. S. Post Office, Court House, &c.,
building at Auburn, N. Y., in accordance with
drawings and specification, copies of which may
be had on application at this office or the office of
the Superintendent. Each bid must be accom-
panied by a certified check for \$50. The Depart-
ment will reject all bids received after the time
fixed for opening the same; also, bids which do
not comply strictly with all the requirements of
this invitation. JAS. H. WINDRIM, Supervising
Architect. January 30th, 1890.SEALED PROPOSALS will be received at the
office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock
P. M. on the 1st day of March, 1890, for all the
labor and material required to fix in place com-
plete the Low-Pressure Return-Circulation Steam
Heating and Ventilating Apparatus required for
the U. S. Post Office, Court House, &c., building
at Binghamton, N. Y., in accordance with the
drawings and specification, copies of which may
be had on application at this office or the office
of the Superintendent. Each bid must be accom-
panied by a certified check for \$500. The Depart-
ment will reject all bids received after the time
fixed for opening the same, also, bids which do
not comply strictly with all the requirements of
this invitation. JAS. H. WINDRIM, Supervising
Architect. January 28th, 1890.PUBLIC SALE OF OLD SUPPLIES AND
MATERIAL AT NAVY YARD, NEW
YORK.—Navy Department, Washington, D. C.,
February 7, 1890. In accordance with the pro-
visions of the second section of the act of Con-
gress, approved August 5, 1874, Statutes at Large,
vol. 22, page 296, there will be sold at the Navy
Yard, New York, certain supplies belonging to
the Navy, condemned as unfit for use therein,
consisting of provisions, clothing, small stores,
iron chests, cotton and woolen clippings, empty
boxes and barrels. The sales will be at public
auction for cash to the highest bidder, and will
commence at 10 A. M., February 25, 1890, and con-
tinue from day to day, if necessary, until all the
articles are sold or offered. A deposit of ten per
cent, will be required at the time of the sale on
purchases not paid for at once as security for the
payment of the balance and the removal of the
articles within ten days, which deposit will be
forfeited to the United States in the event of
failure to pay such balance and make removal
within the time stated. Schedules of the articles
to be offered can be procured from the Command-
ant of the Navy Yard, New York. The articles
sold must be removed without expense to the
Government. F. M. RAMSAY, Acting Secretary
of the Navy.

J. A. HOOVER,

P. O. Box 11. Chattanooga, Tenn.

Has Ten (10) Locations for any
Good Industries.

Stock taken and ground given. Write at once.

TRADE NOTES.

THE manufacturers of the Menasha hard wood split pulleys, of Menasha, Wis., send out a neat catalogue descriptive of their goods. It is a catalogue that should be in the hands of every manufacturer. Copies of it can be had upon application to the company. The factory of this company is equipped to do the best work at short notice. These pulleys stand very high, as they have sufficient strength to stand the strain of any belt, and are not affected by atmosphere or moisture, as no glue is used in making them. All information concerning them can be had upon application to the company.

SEVERAL button sewing machines have been put on the market, which have been declared infringements on the Morley patent, manufactured by the Morley Button Sewing Machine Co., 205 Congress street, Boston. In the suit of the company against the Mathison Co., in the United States Circuit Court, Judge Colt "held that the absence of the hopper and other modifications made in defendant's machine does not change its general character. It remains still an automatic button sewing machine made up of the three main groups of instrumentalities which are found in the Morley machine. I am perfectly satisfied that the machine which the defendants now make comes within the reasoning and scope of the opinion of the Supreme Court in the Lancaster case. The defendants in the Mathison case are therefore adjudged in contempt, and the motions for a preliminary injunction in both of the above cases are granted. The Mathison Co. that put a modification of their machine on the market, and again the Morley company, sought injunction. In this case Judge Colt again sustained the Morley patent. He held that the petitions should be granted. In case No. 2675 I shall adjudge the defendants in contempt with respect to Mathison No. 3 machine. It is not clear to me that the defendants are guilty of contempt for the collection of royalties under their leases, and therefore I shall only hold them in contempt on the first ground."

A PHOTOGRAPHIC NOVELTY.—Rapid as has been the progress in all branches of photography, the problem of seizing and reproducing the varied colors of nature seems as far from solution as ever. That achievement is still the dream of the ambitious photographer, and some day, perhaps, chemistry may help the experimenter with her subtle secrets to make the dream a reality. Apart from this supreme problem, however, photography is making daily extraordinary advances. * * The latest novelty—and a charming one it is—is the Kodak camera, brought out by the Eastman Dry Plate Co., of Rochester, N.Y. This consists of a small oblong box no longer than an ordinary cigar box. * * The pictures taken are necessarily small, but they are perfect little gems. So sensitive is the prepared surface, that although the exposure is only the fraction of a second, the amount of detail in the picture and the clearness and sharpness with which it comes out is amazing. For broad landscape effects the Kodak is, of course, not intended. Its strongest point is in reproducing those choice bits of nature which abound in every locality. A quaint, picturesque cottage with its vine-clad porch and clump of sugar maples; a quiet turn in the brook, with perhaps an old willow bending over it, or a group of silver birches brightening up the rising bank; a bold jutting piece of rock; the village church; the blacksmith's shop with horses waiting to be shod; the country school-house with its inmates just let loose—these are a few of the things which the Kodak turns into pictures of beauty and a joy forever.—New York Tribune.

THE Billings & Spencer Co., of Hartford, Conn., are manufacturing an immense number of commutator-bars for the electrical company of the county. These bars are pieces of copper set at an angle to each other. The horizontal blades, separated from each other by some non-conducting substance, are placed side by side around the shaft of the dynamo, and bound firmly together. Electricity is generated by the friction of metallic brushes against the edges of the bars, revolving at high speed. The bars formerly were made in two pieces, united by pins and solder, until Mr. C. E. Billings' invention. Mr. Edison expressed the opinion that they could not be produced in this way, but Mr. Billings cut the dies and forged the bars in a single piece from pure copper. By this invention the cost of the bars has been greatly diminished and their efficiency increased. They are coming into general use.

A GOOD offer of land and money is made in our advertising columns to any promising manufacturing concern that will establish itself at Lynchburg, Va., on the property of the Lynchburg Land, Improvement & Manufacturing Co. Lynchburg is a famous old city that is making good progress, and that has very rare facilities for carrying on business, owing to its natural situation and to the very complete railroad connections it has with all the leading business centers in every direction. Within the past few years numerous industries in a variety of lines of manufacture have been established at this place. Raw materials, such as iron, lumber, tobacco, etc., can be had in abundance from the neighboring country. The industry that would be particularly well adapted to this situation would be car works, and if such an institution would agree to move to Lynchburg, The Land, Improvement & Manufacturing Company would offer great inducements for it to move there. The land owned by this company adjoins the corporate limits of the city, and borders on the tracks of the Richmond & Danville Railroad. This road agrees to build all sidings, and in any other reasonable way aid a new enterprise to carry on its business. Lynchburg has a population of about 25,000 people—industrious, energetic people. Labor in the city is very cheap and reliable. This, in connection with the railroad facilities and the cheapness of raw materials, makes the city in every respect a most advantageous one for almost any kind of manufacturing. Any information regarding this property and the inducements offered can be had upon application to R. L. Miller, president of The Land, Improvement & Manufacturing Company, or to S. T. Withers, secretary and treasurer.



SECTIONAL INSULATED AIR COVERINGS

THE BEST IN THE WORLD.

For PIPES, BOILERS, DRUMS and all other hot or cold surfaces. ASBESTOS CEMENT, PACKING, SHEATHING, &c.

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143 Worth St., NEW YORK. 240 and 242 Randolph St., CHICAGO.




Improved Screw Cutting FOOT AND POWER LATHES

Drill Presses, Shapers, Band, Circular and Scroll Saws, Machinists' Tools and Supplies. Lathes on trial. Catalogue mailed on application.

THE SEBASTIAN-MAY CO.
183 West Second St., CINCINNATI, O.

Menasha Hard Wood Pulleys.



We are sole makers of hardwood bent rim, oak spoke arm Pulleys: gripped to shaft with bolts, and using patent paper bushings. They can be put onto shaft without taking it down or cutting keyseats. No glue or nails used in their construction. Hub with bushing fits any size of shaft.

Also sole makers of only small Split Pulley 1 inch to 8 inches in diameter, in the market. See above cuts of them. No glue or nails in them. No Keyseats to cut. Also sole makers of only Split Loose Pulley in the market, with gun metal metaline bushing. Send for circulars and discounts of Menasha Pulleys.

MENASHA WOOD SPLIT PULLEY CO., Menasha, Wis.

Branch Houses: Hoen & Von Kapf, Baltimore, Md.; Lodge & Davis Mach. Tool Co., New York City; H. N. Bates & Co., Boston; Chas. A. Turner, Pittsburg, Pa.; Greene & Wood Mfg. Co., Philadelphia; W. D. Allen & Co., Chicago and Minneapolis; E. L. Cole, New Orleans, La.; Thos. J. Bell & Co., Cincinnati; L. M. Rumsey Mfg. Co., St. Louis.

Machine Molded Pulleys, Hangers, Boxes

COUPLINGS AND SHAFTING.

FIRE FRONTS, HEAVY MACHINE CASTINGS

OF ALL DESCRIPTIONS.

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HERMANN SCHMIDT, President. E. A. CATLIN, Secretary and Treasurer. W. SIMPKIN, Vice-President and Gen. Agent.

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Ice-Making and Refrigerating Machinery

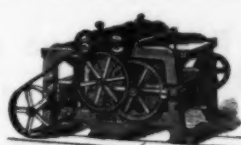
ON THE COMPRESSION PLAN.

We guarantee the proper working of our machinery. All working parts built to gauge, so they can be readily duplicated, and nothing but the very best material used. Specifications and estimates furnished. Correspondence solicited.

P. O. Box 315. GENERAL OFFICE 1105 MAIN STREET, RICHMOND, VA.
Send for our Pamphlet "How to Make an Ice Factory Pay."



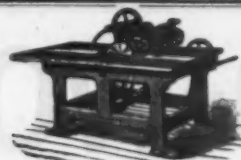
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Improved Wood-Working Machinery

OF EVERY DESCRIPTION,

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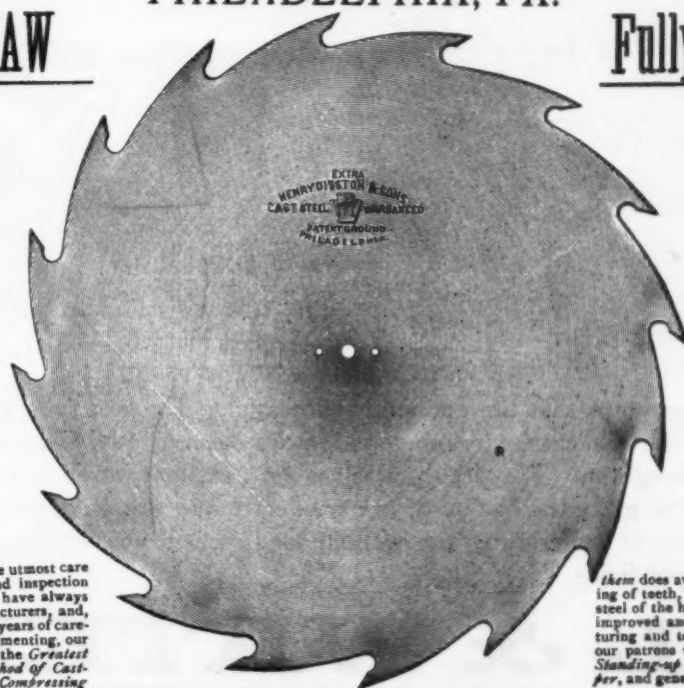
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in the manufacture and inspection
of our steel and saws, have always
headed the list of saw manufacturers, and,
we are happy to say, that after years of care-
ful study and expensive experimenting, our
efforts have been crowned with the Greatest
Success of the Age, as our Method of Cast-
ing Steel Ingots and Process of Compressing

them does away with the splitting and spall-
ing of teeth, makes a hard, tough and elastic
steel of the highest quality, which, with our
improved and patented process of manufac-
turing and tempering enables us to furnish
our patrons with saws that for Toughness,
Standing-up Quality, Uniformity of Tem-
per, and general superiority,

HAVE NEVER BEEN EQUALLED.

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Write for circulars and price-list
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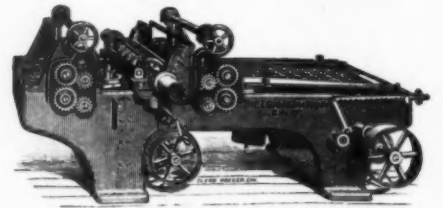


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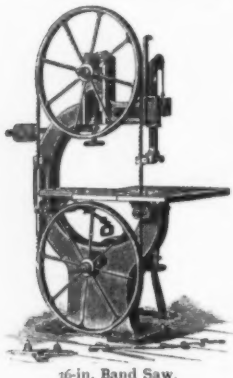


COMPLETE OUTFITS

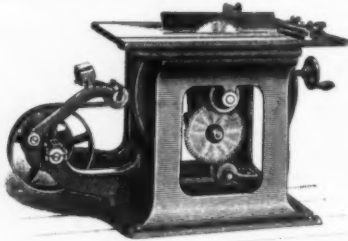
For Planing Mills, Sash, Door and Blind Factories,
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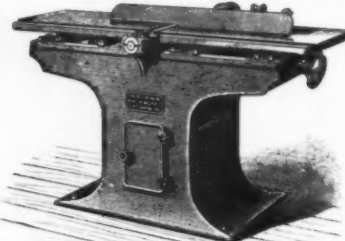
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36-in. Band Saw.



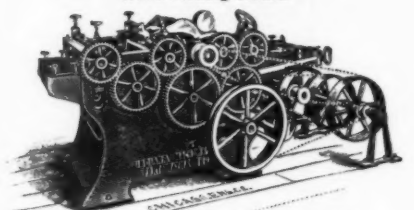
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No. 1 Clipper Planer, Matcher and Moulder.

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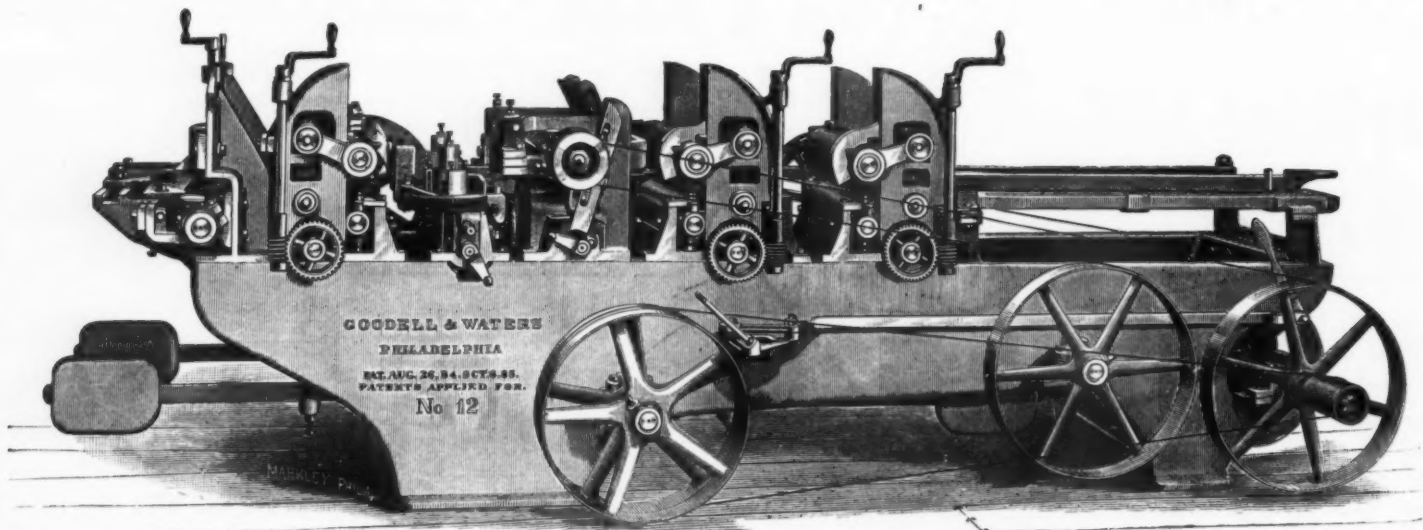
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ANOTHER SPECIALTY of a series of new machines that are eminently successful. The No. 12 is pronounced by one of the leading mill men of Philadelphia to be the easiest running and most conveniently adjusted machine on the market. Cheap machinery is costly in the long run. We pride ourselves on excellent workmanship, perfect designs and the best materials obtainable; all that goes to make the quality of our product. We are having a lively run on this machine, and you will be satisfied that our claims to superiority are well-founded, when you examine the merits and good points about it. We solicit your correspondence.

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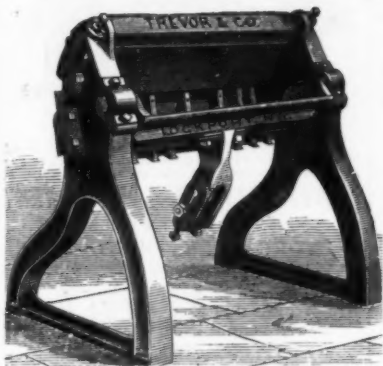
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HEADING SAWING MACHINES,



IMPROVED CROSSETT STAVE CUTTER.

Heading Turners,
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Stave qualizers,
STAVE CUTTERS,
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Lathes for Turning Handles for Brooms, Mops, Forks, Hoes, Axes,
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If you want Machinery for Staves, Heading, Shingles or Veneer Cutting send for our catalogue "A." If you want Handle Machinery send for catalogue "B." Please say where you saw this advertisement.

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THE SYSTEM adopted by this company for the use of Crude Petroleum as fuel is both simple, economical and effective. Perfect combustion, uniform heat, regulated as easily as an ordinary lamp. Although comparatively new, being only introduced in April of this year, the number of fires using it **AMOUNT TO NEAR ONE THOUSAND, WHICH IS PROBABLY MORE THAN ALL THE OTHER DEVICES FOR THIS PURPOSE COMBINED.**

This company has yet to meet with the first failure in its appliance. The company is ready to put up any number of fires on trial, and to remove the same free of all expense should it fail to do what is represented.

We use the ordinary blast-blower (found in most every establishment) that will give 5 to 6 oz. pressure. Steam or compressed air dispensed with.

This Method is well adapted for Desulphurizing Ores and other Mining Purposes.

This Burner is particularly adapted to the heavy work done by axe and scythe makers, large drop forging, etc., as well as the innumerable lighter manufactures.

We have in actual use fires from 6 x 8 inches for sure work, up to 5 x 24 feet for heating Blooms, where we heat 60 gross tons per day.

In fact it can be applied to any purpose where heat is required, obtained from coal or gas. We save in fuel, labor, time, quality of work, health of operatives, cleanliness; also in the durability of belting, which is rapidly destroyed by the fumes of gas produced by anthracite coal.

We have at this office a number of testimonials from large concerns, setting forth the merits as claimed, which are open to inspection, or a circular will be furnished on application. For further information apply at the offices of the company, Ft Plain, N.Y.

OFFICE OF LAKE ERIE IRON CO.,
301 CLAIR STREET, CLEVELAND, O., June 28th, 1889.

Gentlemen: In reply to your request for a testimonial as to the merits of your burners, we beg to state that when you first proposed to put your burners in our works we were rather doubtful as to the realization of all you claimed. After a trial of three burners we increased the number to twenty-three, and have added twelve more, and in the near future will use no other means of combustion.

We save sixty-five per cent. in fuel, fifty in labor and twenty-five in time, besides producing a better article; and in health and comfort to operators it is beyond comparison.

Yours very truly,
LAKE ERIE IRON CO., G. W. SCOFFIELD, TREAS.

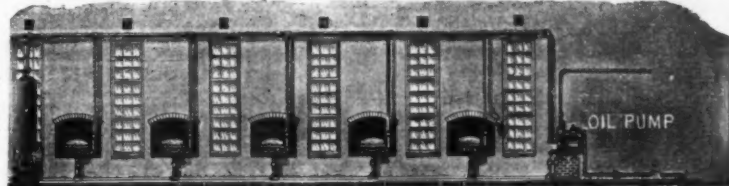
Defiance Oil Fuel Burner & Forge Company.

This Company offers to Iron and Steel Manufacturers their system of burning Crude Petroleum, which they warrant superior to any on the market. We put it in on trial on its merits. The cost is one-third less than the cheapest. For particulars apply to office,

137 BROADWAY, Rooms 58 and 59,

NEW YORK.

THE AERATED FUEL COMPANY,
425 MAIN STREET, SPRINGFIELD, MASS. J. H. BULLARD, Manager.
FORGING AND WELDING BY PETROLEUM AIR BLAST
THE ONLY RIVAL OF NATURAL GAS! ECONOMY OVER COAL!



This Cut shows our System in Actual Operation in a Nut and Bolt Works where the output is about 40 Tons Daily.

CONTINUOUS FIRES ALL DAY. NO SMOKE, DIRT, OR ASHES.

ALDEN SPEARE'S SONS & CO., 3 Central Wharf, Boston, W. S. COLLINS, 171 Broadway, New York, WILLIAM PICKETT, SON & CO., 170 Lake Street, Chicago, Agents.

THE ONLY SYSTEM WHERE ALL OIL IS BELOW THE BURNERS!

We will replace any Insurance canceled on account of its use when put in according to our plans without extra cost to the insured.

A New Gas for Light and Fuel.

THE BROOKS GAS PROCESS

In practical operation converts crude petroleum into a fixed or non-condensable gas for illumination or fuel. The attention of gas companies is called to this process, as by its adoption they will be able to produce a light of equal brilliancy to that of the electric light, and at less cost than by any other process. Manufacturers will find this the fuel with which to compete with natural gas.

BROOKS GAS PROCESS COMPANY,

—OF PENNSYLVANIA—

920 to 925 Drexel Building, Philadelphia, Pa.

TRADE NOTES.

ATTENTION is directed to the advertisement of the Canton Saw Co., Canton Ohio, manufacturers of solid and inserted tooth circular saws, shingle, concave, grooving, heading and other saws, and Knight's improved mill dogs; also a valuable improvement in the shape of a glass board, very much appreciated by glass cutters. This is a well-known and popular concern with saw mill men. Their products are always up to the standard in quality, and most reasonable in price.

MESSRS. GORDON, STROBEL & LAUREAU, Limited, of Philadelphia, have contracted with the Jefferson Iron Works, Steubenville, Ohio, for 20x60 Gordon-Whitwell-Cowper fire-brick hot-blast stove, equipped with two Kennedy sliding gas inlet valves and Kennedy's hexagonal regenerative bricks. They have also contracted with the Tennessee Coal, Iron & R. R. Co., of Ensley, Ala., for a plant of three Beel-Ramsey coal-washing machines. Each is designed to wash from 100 to 150 tons per day.

THE Acme dry steam blower has just been patented and is offered to the trade by Thos. Fahy, of 248 Broad street, Rome, Ga., as will be seen by our advertising columns. This blower promises to be of great economic value when attached to furnaces, boilers, etc., as it causes a great saving in fuel, preserves grates, prevents clinkers from doing as much damage as they usually do, and in other ways greatly facilitates work. It is especially adapted to all purposes where a forced blast is desired. Any information in regard to this blower and its various uses can be had upon application to Mr. Fahy.

THE Thomson-Houston Electric Co. reports the following recent sales in the South of arc and incandescent apparatus for isolated plants: Maryland Pavement Co., Baltimore, Md., 9 arc; Mayfield Woolen Mills, Mayfield, Ky., 200 incandescent; Western Kentucky Lunatic Asylum, Hopkinsville, Ky., 300 incandescent; Carrollton Furniture Co., Carrollton Ky., 150 incandescent. Incandescent apparatus to central stations: Franklin, Tenn., 300; Paris, Ky., 1,300; Jacksonville, Fla., 650; Nashville, Tenn., 2,600. Arc apparatus to central stations: Franklin, Tenn., 20; Atlanta, Ga., 50; Nashville, Tenn., 300. Their sales in other sections have been very heavy.

WE call attention to the advertisement in this issue of H. Wm. Dopp & Son, Buffalo N. Y., who manufacture a full and complete line of machinery and supplies for soap makers and butchers. Their patent kettles are also adapted for the use of confectioners, chemical works and others. They are made in 18 sizes, to hold from 1 to 500 gallons, and are arranged with an automatic agitator for stirring. The Dopp soap presses and other machinery are in use not only in this country, but in nearly every part of the globe. A full and interesting description is given in a neat illustrated catalogue, which will be sent upon application to H. Wm. Dopp & Son, 462 Ellicott street, Buffalo, N. Y.

ATTENTION is called to the advertisement in another column of Benjamin Watson, dealer in railroad supplies, 40 Wall street, New York. Mr. Watson furnishes all classes of railway construction material and equipment, and is prepared to make contracts for material and equipment at the lowest market prices. Among these supplies are iron and steel rails, rail fastenings, plates, bolts, nuts and spikes of all sizes and weights; locomotives to any specification; cars, including passenger, flat, box, stock, gondola, coal, hand and dump for either standard or narrow gauge roads; also car equipment on the trust plan. Mr.

Watson will also purchase or sell old or second-hand rails, cars, locomotives, either standard or narrow gauge, scrap iron, etc.

If the prospectus sent out by the East Tennessee Land Co. is a forerunner of what the company itself is to be, we must say that it is to be one of the best in the South, for the prospectus is the finest we have seen. Its engravings are excellent, its printing and general get-up very neat and attractive, and the text concise and to the point. There appears to be no flowery or extravagant claims made, but a straightforward, business-like statement of matters, in such form as to instantly attract the attention of the business man and the investor. The company has about 300,000 acres of land, a larger part of which is to be sold, and every title deed conveyed will contain a clause prohibiting the use of the property for the purpose of making, storing or selling intoxicating beverages. Incidental mention, however, is made of this in the prospectus. The scheme is not a catch-penny game to gather in prohibitionist dollars, but a sturdy business affair backed by some of the foremost business men of the country, and based on some of the choicest mineral, timber and farming lands in the South. Its town site at Emory Gap is a most commanding one, and is destined to be a leading business and industrial center. Any information regarding this company can be had upon application to the secretary, A. A. Hopkins, 96 Broadway, New York city.

FOR Ice-Making & Refrigerating MACHINERY,

ADDRESS THE
Ring Refrigerating & Ice Machine Co.

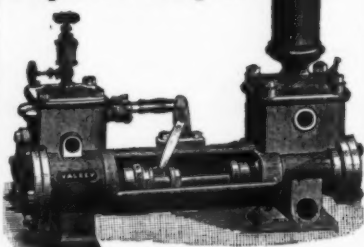
OFFICE:
218 CHAMBER OF COMMERCE,
ST. LOUIS, MO.

DON'T BUY AN ENGINE —OR— BOILER

Until you have seen our circulars. Engines complete from 5 to 110 horse power, both Vertical and Horizontal, at prices below those of other reputable makers. 1400 in use. Boilers of every style. Automatic Engines for Electric Lights. Centrifugal Pumping Machinery for Drainage or Irrigation. Established 22 years. Perfect satisfaction guaranteed. Ask for Circular M and address

Morris Machine Works
BALDWINVILLE, N. Y.

Duplex Pumps.



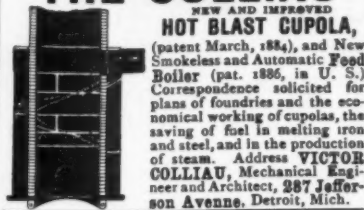
Valley Pump Co., Easthampton, Mass.

HUGHES STEAM PUMP CO. CLEVELAND, O.

MANUFACTURERS OF
Single, Duplex and Compound Pumps
FOR ALL DUTIES.
WATER WORKS PUMPING ENGINES
SEND FOR CATALOGUES AND PRICE LISTS,
Donagan & Swift, New York Agents.
T. R. WINGROVE, 324 NORTH ST.
BALTIMORE AGENT.



"THE COLLIAU"



NEW AND IMPROVED
HOT BLAST CUPOLA,
(patent March, 1884), and New
Smokeless and Automatic Feed
Boiler (pat. 1886, in U. S.)
Correspondence solicited for
plans of foundries and the economical
working of cupolas, the saving of fuel in
melting iron and steel, and in the production
of steam. Address VICTOR
COLLIAU, Mechanical Engineer and Architect,
287 Jefferson Avenue, Detroit, Mich.

JAS. P. WITHEROW.

ENGINEER & CONTRACTOR,
Furnace & Steel
Plant Construction.
PITTSBURGH, U. S. A.

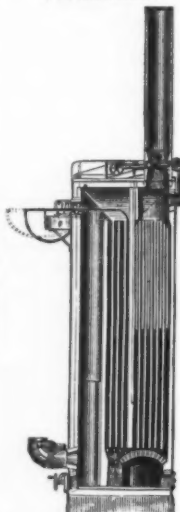
Blast Furnaces and Steel Works designed and erected complete in every detail ready for operation. Special attention given to the manufacture of

HEINE Safety Water Tube Boilers.

Owning an extensive manufacturing plant, I can guarantee promptness in execution, and satisfaction in any contracts undertaken by me.

Gordon, Strobel & Laureau
(LIMITED.)

FIRE BRICK HOT BLAST STOVES.



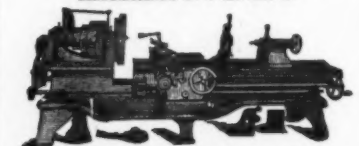
BLAST FURNACES.

Main Office and Works, PHILADELPHIA, PA.
Western Branch, Pittsburgh.

Cinder Cars, Charging Barrows, Blast Furnace Equipment, Blowing and Stationary Engines.

Established 1867.
E. HARRINGTON, SON & CO

Works and Office,
N. 15 St. & Penna. Ave., Phila., Pa.
Manufacturers of a full line of

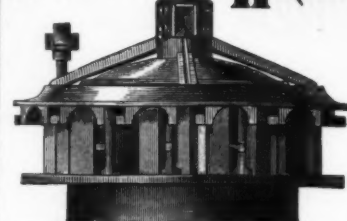


Iron Working Machinery,

INCLUDING
Extension and Gap Lathes, Planers with Quick Return, Drills, &c., Hand Power Elevators with Patent Brake, Double Chain Screw Hoists, Overhead Tramway with Switch, Turntable and Geared Truck.
Gear Cutting a Specialty. Send for Estimates.
J. Q. MAYNARD, 15 Cortlandt St., New York.
C. E. KIMBALL, 93 Oliver Street, Boston, Mass.
W. BUCHNER, 202 Main St., Cincinnati, Ohio.

SUCCESS

Water Wheel.



This Wheel is strong and durable. Excelled all other wheels in the great trial tests. Is in use all over the nation. I also make a specialty of
HEAVY GEARING & MACHINERY
For Paper, Cotton and Grist Mills.

S. MORGAN SMITH, York, Pa.

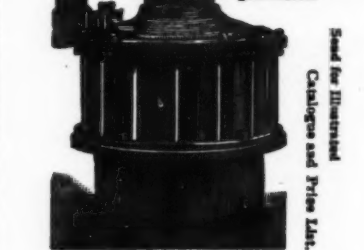
Rome Foundry & Machine Works,
ROME, G.A.

Manufacturers of the well known

DAVIS DOUBLE TURBINE

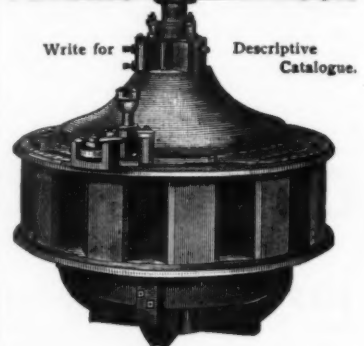
Water Wheel.

Beyond all question one of the best wheels on the market, and is fully guaranteed.



ALSO MANUFACTURE
Portable & Stationary Engines
AND BOILERS,
Grist & Flouring Mill Machinery.

THE IMPROVED LANCASTER Turbine Wheel.



Write for Descriptive Catalogue.

Lancaster Turbine Wheel Co. Lancaster, Pa.

The Balanced Gate Turbine.

PAT. SEPT. 3, 1889.
High Percentage,
Great Simplicity,
CLOSE FITTING,
—AND—
EASY WORKING GATE
Under all Circumstances.
Sold under Full Guarantee at Low Prices.
Send for Descriptive Pamphlet.

CHRISTIANA MACHINE CO., Christiana, Pa.
Makers of all kinds of Machinery for Transmitting Power. Perfect Goods Only.

MAGNOLIA METAL

INDORSED BY

UNITED STATES AND GERMAN GOVERNMENTS.

BEST ANTI-FRICTION METAL FOR

Steamship, Rolling Mill, Saw Mill, Car, Dynamo and all Machinery Bearings.

Beware of Counterfeits.
Our Trade Mark
is stamped on each piece.



NAVY DEPARTMENT.

BUREAU OF STEAM ENGINEERING, WASHINGTON, March 25, 1888.

SIR: I herewith forward to you a copy of the report of the several tests made of "Magnolia Metal" by this bureau. Respectfully,

CHAS. B. MILLER, President,

GEORGE W. MELVILLE,

Patentee "Magnolia Anti-Friction Metal," New York.

Eng-in-Chief, U. S. N., Chief of Bureau.



UNITED STATES GOVERNMENT REPORT.

Magnolia Metal vs. Parsons' White Brass, the latter being the best English Metal.

	Average Revolutions per minute.	Pressure per square inch.	Highest Temperature.	Remarks.
Jan. 17, 1888.				
Magnolia	2,008	100 Lbs.	103° F.	Parsons' oil hole choked up and oil smoking.
Parsons'	2,008	100 Lbs.	280° F.	
Jan. 19, 1888.				
Magnolia	2,008	150 Lbs.	130° F.	Result in favor of Magnolia.
Parsons'	2,008	150 Lbs.	360° F.	

SUMMATION.

"A summation of the results of the experiments shows the great superiority of Magnolia Metal over Parsons' White Brass, the Magnolia, even after the heaviest stress, retaining a smooth polished surface. This metal has also been tested in the friction machine up to 600 pounds per square inch, the limit of the machine."

C. J. McCONNELL, Chief Engineer, U. S. N.
WM. A. WINDSOR, P. A. Engineer, U. S. N.
F. C. BOWERS, Assistant Engineer, U. S. N.

Rear Admiral BANCROFT GHERARDI, Commandant, Navy Yard, New York.

INDORSED BY THE GERMAN GOVERNMENT.

Extract of Letter from the German Royal Gun Manufactory.

To HERR EDOUARD BEYER, Cleve, Germany: ERFURT, Germany, July 6, 1888.
In replying to your favor of 30th of June, our Board of Managers beg to inform you that it is not permissible for us to give out any testimonials without special permission from the government.
But our frequent orders for the Metal will serve to show you that we are perfectly satisfied with your Magnolia Metal.

GERMAN GOVERNMENT RAILROAD WORK.

MAIN OFFICE OF THE BUCKAU MAGDEBURG R. R. Co.,

Directorial District of the Royal R. R. Direction Magdeburg.

Replying to your esteemed letter of December 24th, we are pleased to state that all experiments made up to the present time with the Magnolia Metal have given very satisfactory results.

The experiments, however, being not yet entirely finished, we are not able to give final figures. BUCKAU, MAGDEBURG, January 6, 1889. (Signed) THOMAS, Director.

(About a year's test.)

MASON COLLEGE, BIRMINGHAM, ENGLAND.

Messrs. THE MAGNOLIA ANTI-FRICTION METAL CO.:

GENTLEMEN: This is to certify that I have made a series of tests of your Magnolia Metal in a machine specially designed to reproduce as nearly as possible the practical working condition of Machine Bearings. I have also made a series of exactly similar tests in the same machine on the best quality of Babbitt and Gun Metal.

A detailed report on these tests was forwarded to you recently. The experiments were made on three different diameters of Journal; four different lengths, four different speeds and five different pressures. In all, between three and four thousand tests were made, in each of which the temperature of the bearings and the friction were carefully and exactly measured. The numerical results are set forth in the detailed report in fourteen tables and a number of diagrams.

I am pleased to state that your metal has proved by these tests to be much superior to either Babbitt or Gun Metal. It produces less friction, it keeps the bearing temperature lower, requires less lubrication and possesses greater durability. This characteristic of durability is a most important one within the wide limits of condition covered by my tests. It would be true to say that the longer the Magnolia Metal bearing is used, and the more severe the duty imposed on it, the better become its conditions.

It is satisfactory to note that the elevation of bearing temperature above that of the surrounding air is, under all ordinary conditions, extremely low. With prolonged use the temperature shows no tendency to rise, and the surface becomes more and more smooth and glossy.

The general conclusion at which I have arrived from these experiments is that Magnolia Metal is a very excellent material for bearings; that its special good qualities appear more particularly when it is subjected to intense pressure, such as could not be borne by other metals without firing or melting, and that under very trying circumstances the Magnolia Metal may be trusted to remain cool, that is, at a temperature that does not interfere with good working.

NEW YORK CITY.

MAGNOLIA ANTI-FRICTION METAL CO.:

GENTLEMEN: I have made a number of comparative Friction Tests of Journal Bearing Metals. Those selected were your own Magnolia Metal taken from the stock as made day by day, Hoyt's Genuine Babbitt, Deoxidized Genuine Babbitt (the latter two supposed to be the best of their class), also Parsons' White Brass and Merchant's Iridium Metal.

The machine used was a five-inch Collar, keyed on a three-inch shaft, lubricated with sperm oil, five-inch collar running in the oil.

With light pressure and slow revolutions of shaft the Metals showed little difference, but with rapid revolutions and heavy pressures Magnolia Metal showed great superiority.

Herewith is a detailed statement of the tests of the metals.

NOTE.—Mr. Torrey is well known as U. S. Assayer, having been in Mint service in New York for thirty years. Mr. Taylor has been a trusted assistant in the same institution for many years.

MAGNOLIA METAL.

Time in Min's	Temp. F.	Pressure Per Square Inch.	Revolutions per Minute.	Speed of Rubbing Surface per Minute.
0	90° F	500 lbs.	1550	2030 ft.
10	120°	500 "	1550	2030 "
20	140°	500 "	1550	2030 "
30	160°	500 "	1550	2030 "
40	180°	500 "	1550	2030 "
50	210°	500 "	1550	2030 "
60	198°	800 "	1500	1965 "
70	196°	800 "	1500	1965 "
80	190°	1000 "	1500	1965 "
90	186°	1000 "	1500	1965 "

Remarks: Metal in perfect shape, not displaced or abraded.

H. G. TORREY.
CHARLES TAYLOR.

Time in Min.	Deoxidized Genuine Babbitt.	Hoyt's Genuine Babbitt.	Parson's White Brass.	Merchant's Iridium.	Pounds Pressure Per Sq. In.	Revolutions of shaft Per Minute.	Speed of Rubbing Surface per Minute.
0	90° F	90° F	70° F	80° F	200 lbs.	1600	2095 ft.
10	140°	156°	160°	144°	300 "	1350	2030 "
20	170°	180°	180°	185°	500 "	1000	1965 "
30	230°	230°	280°	266°	800 "	1500	1965 "
35				380°	1000 "	1500	1965 "
40		345°			1000 "	1500	1965 "
45		397°			1000 "	1500	1965 "
50					1000 "	1500	1965 "
55					1000 "	1500	1965 "
	Deoxidized Genuine Babbitt melted and stuck to shaft at end of 55 min.	Hoyt's melted and stuck to shaft at end of 45 min.	Parson's White Brass melted when 800 lbs. were added — did not stick.	Merchant's Iridium ran 36 minutes, melted at 385. Ran with 800 lbs 6 minutes.			

H. G. TORREY.
CHARLES TAYLOR.

MAGNOLIA METAL.

Time in Min's	Temp. F.	Pressure Per Square Inch.	Revolutions per Minute.	Speed of Rubbing Surface.
0	90° F	1000 lbs.	1300	1965
10	130°	1000 "	1300	1965
20	160°	1000 "	1300	1965
30	180°	1000 "	1300	1965
40	200°	1000 "	1300	1965
50	240°	1000 "	1300	1965
55		1000 "	1300	1965

Remarks: Metal in good condition and not displaced.

H. G. TORREY.
CHARLES TAYLOR.

"THE BEST IS THE CHEAPEST."

Send your Orders to the Owners and Sole Manufacturers,

MAGNOLIA ANTI-FRICTION METAL CO.

74 Cortlandt St.

New York City.

LONDON OFFICE:

CHICAGO OFFICE:

75 QUEEN VICTORIA STREET,

CLUB ROOM 5, GRAND PACIFIC HOTEL.

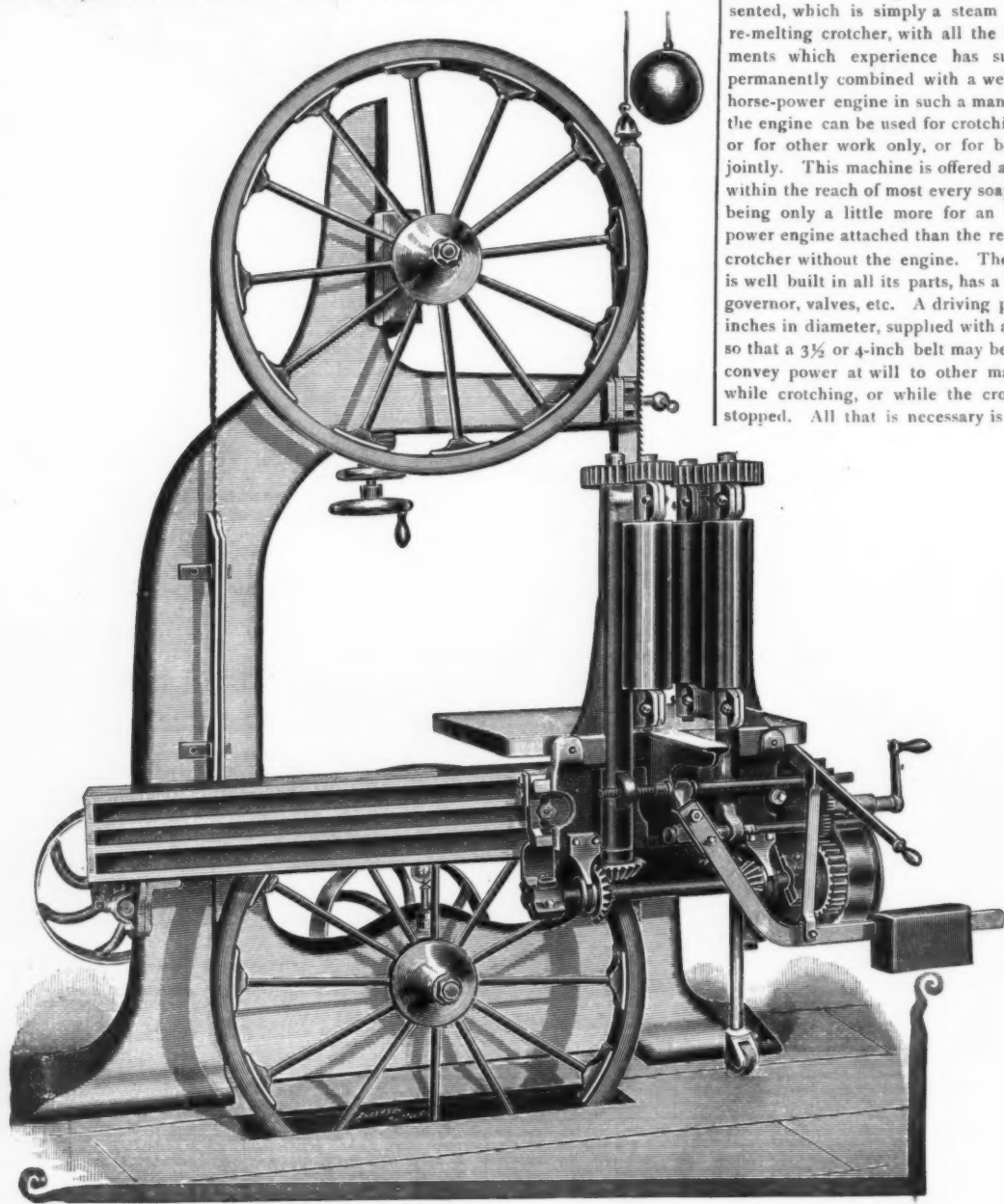
SPECIAL NOTICE.—If Local Dealers Have Not "Magnolia Metal," Telegraph Your Orders at Our Expense.

Band, Scroll and Re-saw.

The accompanying cut represents a new band, scroll and re-saw, upon which the manufacturers have been experimenting for some time, until they now present to the trade what they claim to be the best band re-saw in the market and a machine that can be readily changed to do any kind of scroll-sawing that can be done on a band-saw, and especially adapted to heavy work. Wheels are 42-inch diameter and will carry a 3-inch saw. Spindles are 2-inch hammered machinery steel and run in best Babbitt metal boxes 12 inches long.

There are four 4½-inch feed-rollers, all power driven. They are self-centering, or can be adjusted to cut a thin board from

swing upon the cross-bar at right angle with the machine, which is the most convenient way to dispose of it. The upper wheel has a vertical adjustment of 14 inches and is arranged to tip to control the position of saw upon surface of same. This wheel is raised and lowered by means of a hand-wheel and screw, and when in position by means of another hand-wheel acting as a jam-nut it is held in position. Height of machine to top of wheel at the highest point 9 feet 11 inches. The table for scroll-sawing is of iron, and when feed-works for re-sawing is removed the table can be moved forward into position upon planed slides. This table acts as a back-rest or table when resawing. For further particulars write to Frank & Co., Buffalo, N. Y., the manufacturers.



NEW BAND, SCROLL AND RE-SAW.

either side of a thick plank. By loosening two screws the rollers can be tilted to any angle for sawing bevel, weather boards or any like work. The angle of rollers is controlled by means of two screws. The feed-works are driven by belts at rear of machine, belt running from main shaft to cone-pulley at back of machine, and thence to cone-pulley, compounding into gear at front of machine as shown in cut. Feed can be instantly started and stopped at the will of the operator. The feed-works will expand to take in a 6-inch plank 26 inches wide, the greatest depth the machine will re-saw. By loosening two bolts the feed-works can be slid to the back side of frame upon the cross-bar shown in the cut, which will take it out of the way of the operator, or the feed-works will

Soap-Makers' Machinery.

The accompanying cuts show an improved power re-melting crotcher and an improved swing foot lever soap press for soap makers, manufactured by H. Wm. Dopp & Son, Buffalo, who make a full line of soap-makers' and butchers' machinery and supplies, including cold soap machinery, seamless cast iron steam jacketed kettles, toilet soap rendering and refining kettles, kettles with agitators, steam glue pots for use of cabinet and furniture factories, hotel kettles for boiling, steaming, etc., improved lard dryer, mixer, coolers, etc., steam and foot lever soap presses, soap cutting frames, dies and hand stamps, besides other outfit used by confectioners and chemical works. The improved power re-melting crotcher

shown in cut has an 8 horse-power engine attached, furnishing sufficient power to drive a hoist or elevator, and to pump the soap to the crotcher, besides driving the machine.

It can be put up at almost any place wherever it is most desirable, and dispense with all shafting, pulleys and belting for the crotching.

Attention having frequently been drawn to the fact that many soap makers would employ a good soap crotcher if it would not cost too much to get the steam power necessary to drive it, many having either no or inadequate steam power in their factory, or having it so placed that it necessitates much shafting and belting to transmit the power to the crotcher, H. Wm. Dopp & Son were led to design the machine represented, which is simply a steam jacketed re-melting crotcher, with all the improvements which experience has suggested, permanently combined with a well-built 8 horse-power engine in such a manner that the engine can be used for crotching only, or for other work only, or for both conjointly. This machine is offered at a price within the reach of most every soap maker, being only a little more for an 8 horse-power engine attached than the re-melting crotcher without the engine. The engine is well built in all its parts, has a Gardner governor, valves, etc. A driving pulley 10 inches in diameter, supplied with a shifter, so that a 3½ or 4-inch belt may be used to convey power at will to other machinery while crotching, or while the crotcher is stopped. All that is necessary is to con-

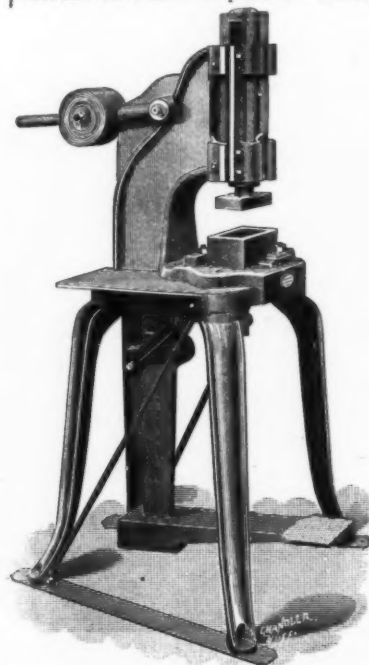
erly. They have made new patterns, strengthening the press in all its parts, and have discarded the old style bumper for lifting the soap out of the mold-box, and substituted a cam action, which not only is almost noiseless, but lifts the soap so gradually and uniformly that it is not possible to throw the cake and lower block out of mold-box against the upper die, as sometimes happens in fast working with the old style. The new device is also much more durable than the old.

The head and bed-plate are cast solid and in one piece, without economizing



IMPROVED POWER RE-MELTING CROTCHER.

metal, making a strong and handsome looking machine. The slide is provided with four V shaped guides working in grooves of best Babbitt metal, thereby giving a perfect guiding and preventing the destruction of the die. The slide is bored one inch parallel to receive shank of die, but can be altered to fit any die. Distance between slide and bed-plate is 8 inches;



IMPROVED SWING FOOT-LEVER SOAP PRESS.

length of bed-plate 16 inches. The pivot of lever is steel in long bearings.

For illustrated catalogue of full line of machinery and supplies, together with prices and other information, address H. Wm. Dopp & Son, 462 Ellicott street, Buffalo, N. Y.

SOME remarkable tests of anti-friction metal will be found in the page advertisement in this week's issue of the Magnolia Anti-Friction Metal Co., 74 Cortlandt street, New York. These tests, in comparison with other well-known anti-friction metals, show some most remarkable results as regards pressure per square inch, revolutions per minute, speed of rubbing surface and temperature. The various tests that have been given this metal, as shown by the advertisement, are by leading experts and authorities, and place Magnolia in the front rank of anti-friction metals.

nect the machine to a boiler having 40 pounds or more of steam, and you cannot only crotch or re-melt, but can in addition run an elevator or soap pump, or do any work common to a soap factory, or run these while your crotcher is idle.

This machine is guaranteed in every respect by the manufacturers, who claim that it has reached perfection as a soap re-melter, as well as a mixer or crotcher, and that for making cold soaps it is unsurpassed.

The swing foot lever soap presses have found great favor wherever used, and are, it is said, acknowledged to be the easiest working presses on the market. H. Wm. Dopp & Son have lately added some further improvements, which make the press work with more ease and less noise than form-

HEATING. VENTILATION. COOLING.

THE
Akron Heating and Ventilating Co.

Sanitary Heating and
Ventilating Engineers,
AKRON, OHIO.

The Akron System is the only correct one for

**Heating, Ventilating and Cooling
Schools, Clubs, Opera Houses,
Churches, Theatres, Hotels,
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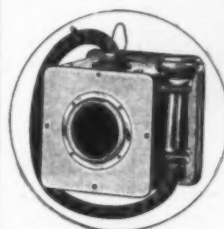
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The Bundy Electric Cash Register.

Retail dealers in all kinds of wares are becoming more and more alive to the value of having a register of the amount of each purchase made by customers, not only as a check upon their employees but as a matter of convenience in keeping their accounts. A novel cash register of this description has recently been brought out by Mr. Willard L. Bundy, superintendent of



THE BUNDY ELECTRIC CASH REGISTER.

the Bundy Manufacturing Co., of Binghamton, N. Y., which is illustrated in the accompanying engraving.

One of the principal advantages of this register is that it can be worked as readily with one hand as with two. As will be seen, the upper row of keys represents dollars, the next row dimes, and the lower row cents.

If the amount desired to be registered is, for instance, \$7.91, one first presses on the key in the dollar row marked 7, then in the dimes' row on the key marked 9, and then in the row of cents on the key marked 1. The drawer of the register will not open until the key of the cents column is touched, when the drawer immediately opens and rings a bell.

In the machine represented in the engraving there is an extra row of keys in series of five cents up to one dollar. If the amount comes within this five cents series, the single key in the combination will register it and open the drawer. When the drawer is pushed in after the requisite amount of cash is deposited, it must be wholly shut and locked, otherwise a bell will ring until this is done. Besides, the drawer cannot be pulled out, after attempting to close it, until it is fully closed and locked; thus carelessness in closing the drawer is at once detected.

The self-adding feature of the electric cash register is an ingenious but simple arrangement which computes the total amount as fast as registered, and is said to be absolutely accurate.

At the close of business the door in the front of the register is dropped, and on the dials is noted the total cash of the day in dollars, dimes and cents, so that the total amount of the day's business can be seen at a glance.

The amount which this machine will register can be extended at a slight expense to any limit, and therefore it will undoubtedly prove valuable to banks and other institutions where large amounts are generally noted down, and the computation of the gross amount must be correctly indicated at the close of the day's business.

This door in front exposing the adding device cannot be tampered with or opened without detection, thus giving no opportunity to change the amount of the total registration. On opening this door a paper is punctured so as to show the date when unlocked and opened. This will be readily

seen to be a valuable precaution against fraud and imposition.

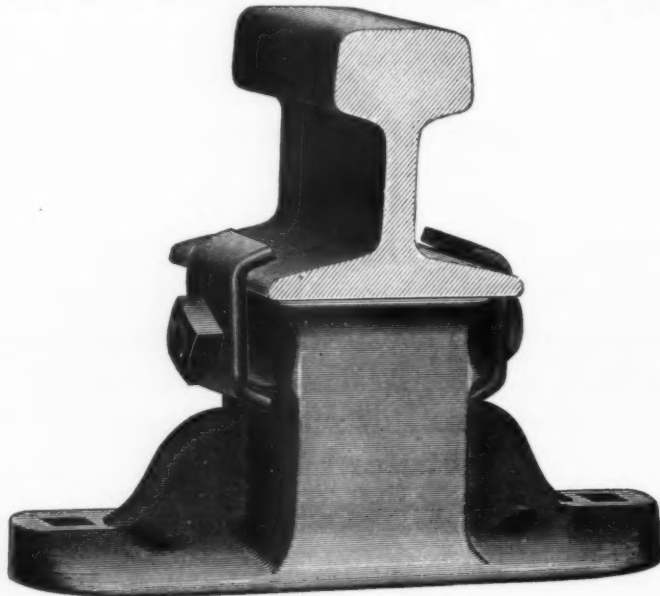
Another feature of this register is the printing on a card of the amount of each purchase, so that it may be passed out to each customer as a memorandum. This, combined with the figures shown on the face, makes a double check against mistakes in registering, at the same time giving the customer a virtual receipt and opening one of the best possible channels for card advertising. In places where checks

are required to be purchased from a cashier and handed to the clerk instead of money, this affords an additional feature of the register. Extensive preparations for the manufacture of the register are being made.

Electric Motor Car Haulage.

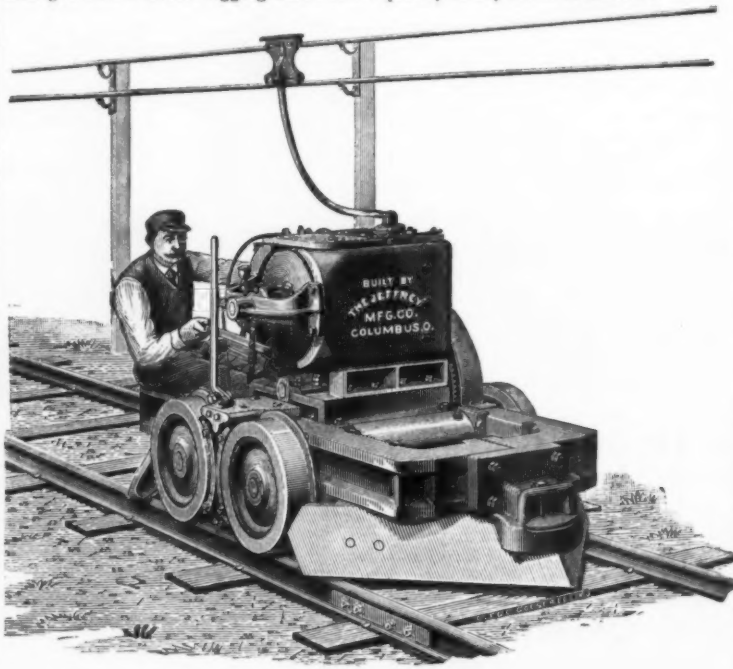
Coal operators and the mining public in general will be interested in the electric haulage system of the Jeffrey Manufacturing Co., Columbus, O., shown in the illustration on this page, which represents a motor car in operation. The motor on this machine is the same type as used on mining machine lately described, and is arranged with a reverse rigging which con-

sion of straight gears to the axles. The car is arranged with draw bars and pilots on each end. The speed of these motors vary, according to the work they are to perform. The manufacturers have motor cars running in coal mines, hauling loads over as high grades as four and one-half per cent with perfect ease at the rate of 8½ miles per hour. The machinery being compact, and occupying but little space, it brings the operator near the parts it is necessary to handle in order to operate the



THE "DAISY" CHAIR FOR STREET RAILWAYS.

car. The operator is able to turn on the current with one hand, and at the same time is able to handle the brushes or the brake. Power is conveyed to the motor by means of a trolley, running on a trolley line, invented by D. N. Osyor, owned and built by this company. The trolley line is known as the "all metal" system, and is one that does not require a ground or rail return. The motor cars carry their own lights, which is quite an advantage in coal mines, and can be handled as easily, safely and quickly as any steam locomotive.



ELECTRIC MOTOR CAR HAULAGE.

sists of a brush holder carrying four brushes, two being in contact when the car runs forward, the other two when running in the opposite direction. The main frame, rectangular in shape, is made of cast iron, with soft steel tires on the car wheels. The motor is located in the center of the frame, and transmits power from the armature shaft through a succes-

A THOROUGHLY experienced business man with \$10,000 in cash to invest in some well established and paying business, advertises elsewhere in our columns, under the head of "Enterprise," care MANUFACTURERS' RECORD, for an opening where he can command a responsible position with salary attached, and invest his money in the business.

A New Chair for Street Railways.

Mr. R. T. White, 12 Pearl street, Boston, is the inventor of several devices for use on the tracks of street railways which are rapidly being adopted in every direction. Among those devices is one for the support of the rails which the inventor calls the "Daisy" chair. The accompanying cut is an accurate representation of this chair, and as will be seen, it is adopted

for supporting T rails or any rails having a similar form of base. The chair consists of a hollow standard closed at its upper end, thus affording a broad flat surface upon which the rail can rest. This, with the broad bearing surface of the chair on the sleeper and the brackets between the base and standard, makes it stronger than any other chair yet invented.

The means whereby the rail is secured to the chair are simple but exceedingly effective. It is done by means of steel clamps turned at their ends, as shown, the lower end fitting over a projection cast on the side of the chair and over the edges of the rail. A bolt is then passed through the clamps and chair; the nut being screwed tight, the rail is practically held as in a vise. These chairs are said to be the most effective on the market, and are receiving well deserved recognition. It has been thought by some that as they are made of cast iron, they are liable to break, but such is not so. Recently some of them were subjected to a very severe test, when an 18-ton steam road roller, with several hundred pounds of dead weight added as a kind of ballast, passed over them without causing the slightest indication of being disturbed. This severe test settled all doubt, and railway men, it is said, now speak of these chairs in most satisfactory terms, and they are being generally adopted. Mr. White has made arrangements to have them manufactured out of a cast steel mixture, which is practically as tough as cast steel. The Attleboro and North Attleboro and Wrentham Street railways and the Newton and Waltham street railways are laid with these chairs.

J. W. ROBERTSON, Morganton, N. C., desires the address of reliable lumber dealers in Baltimore and Philadelphia.

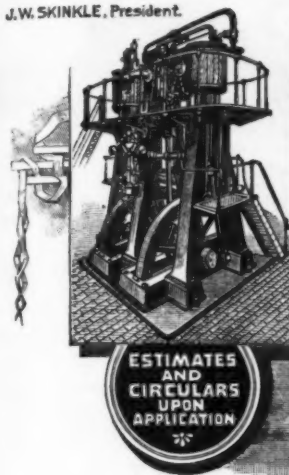
HARRIS & DILLARD, Crawfordville, S. C., want information as to most salable and profitable cotton yarns for manufacture.

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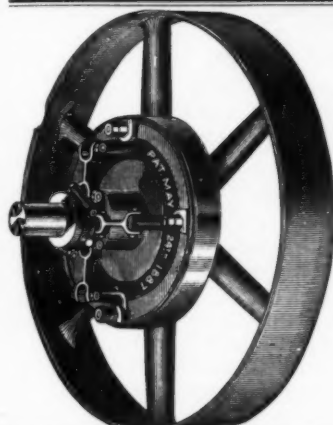
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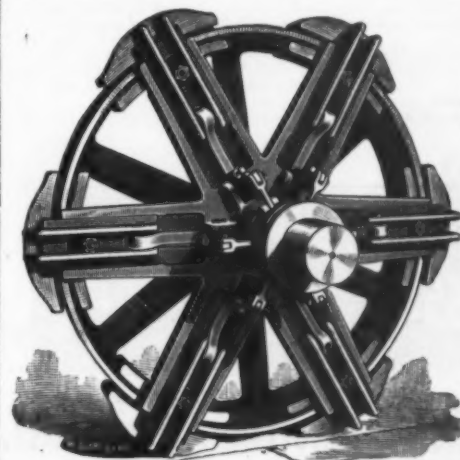
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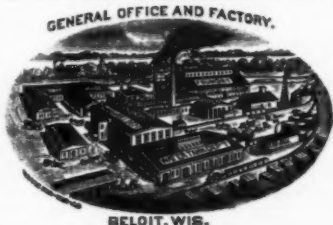
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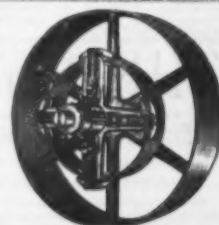
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SEATTLE, WASHINGTON TER., 5 26, 1889.
Eclipse Wind Engine Co., Beloit, Wis.
DEAR SIR: The Clutch Pulley (diam. 106 in., face 21 in) works satisfactorily in every particular, and is a great convenience. We have two, and can stop either the main saws or the gang edger, or both whenever desired, without stopping the engines.
Yours respectfully,
Yealer Wood, Coal & Lumber Co.,
J. D. Lowman, Sec'y.

ECLIPSE WIND ENGINE CO., - Beloit, Wis.

Send for July, 1889 catalogue, and see where and by whom they are used.

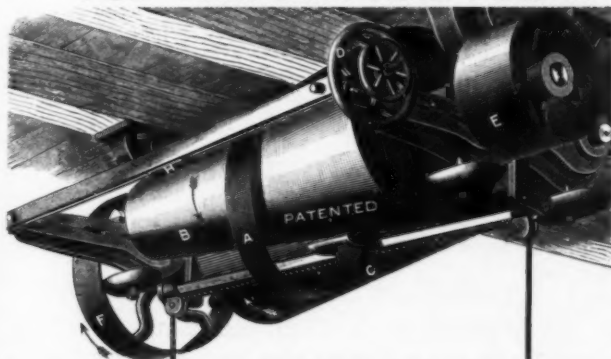
St. JOSEPH, MO., June 24, 1889.
Eclipse Wind Engine Co., Beloit, Wis.
GENTLEMEN: The Clutch Pulley reached us all right; it works to a charm. If we had put it on last April, in place of one we had, we should now be ahead over \$600, which we have lost in time and breakages. Yours,
The Brick & Terra Cotta Mfg. Co.,
F. P. Halsey, Sec'y.



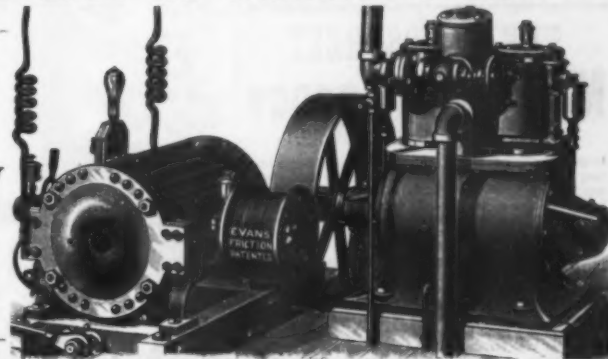
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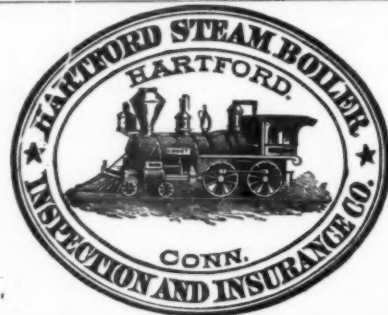
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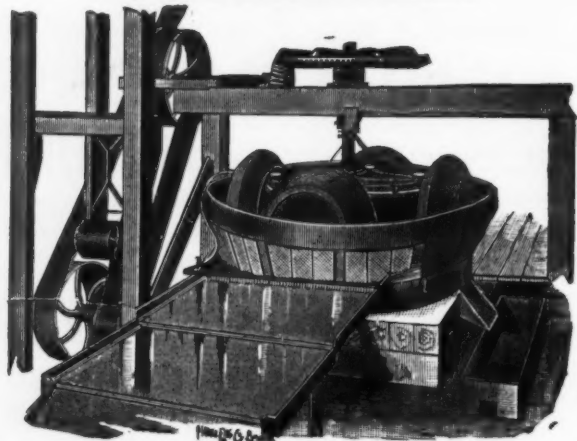
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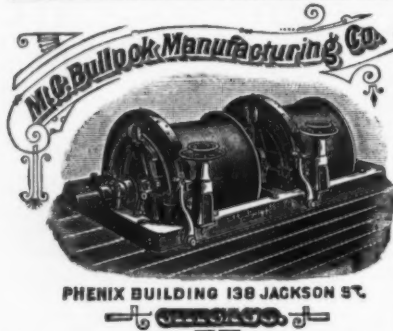
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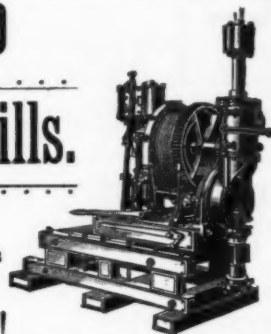
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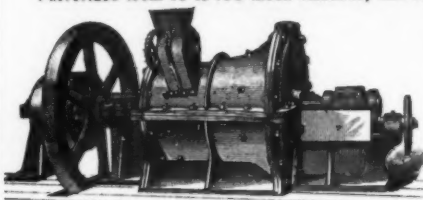
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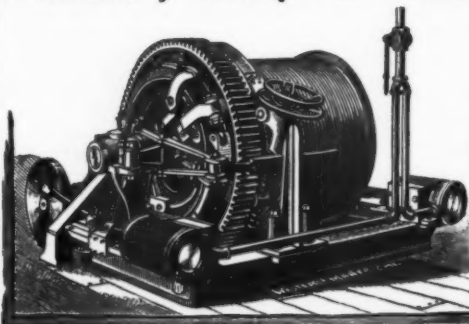
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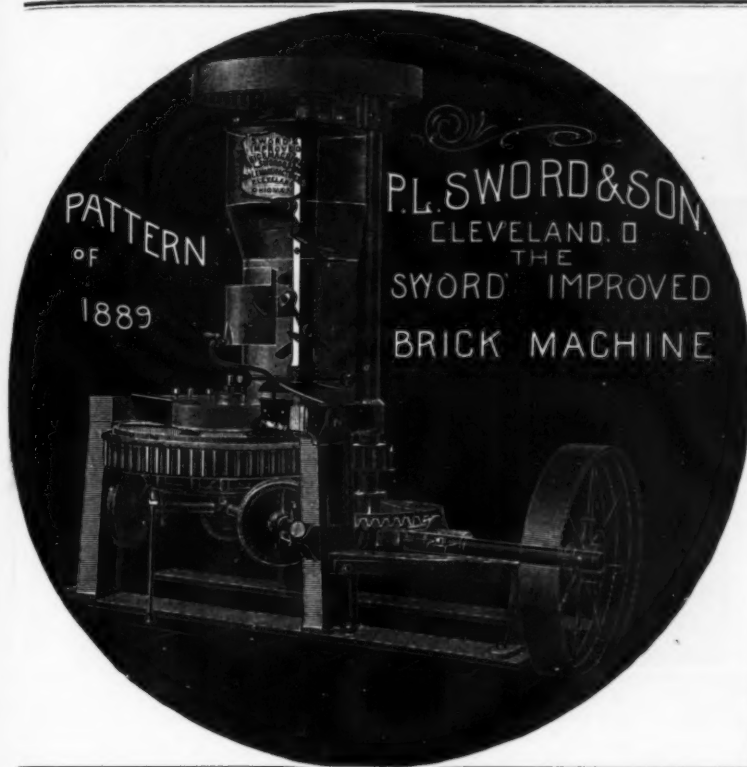
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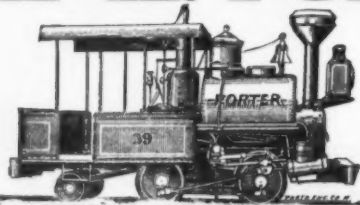
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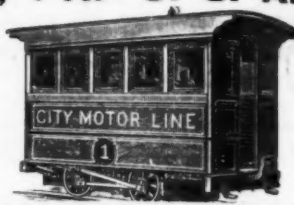
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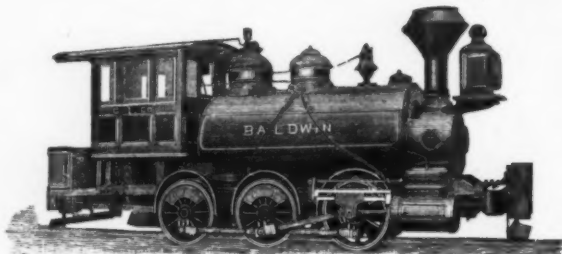
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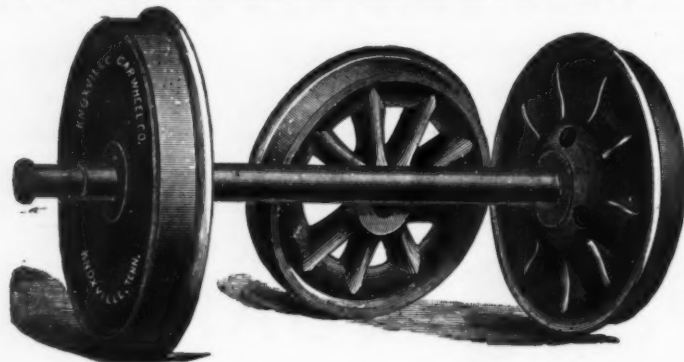
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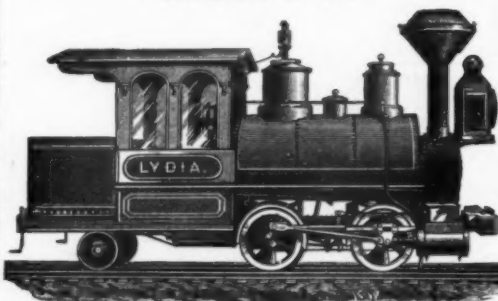
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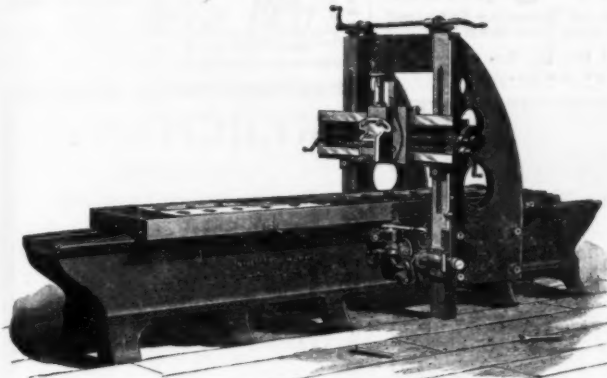
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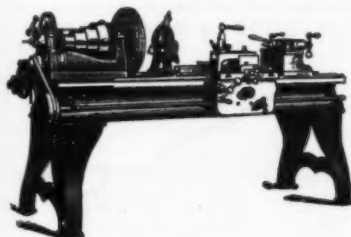
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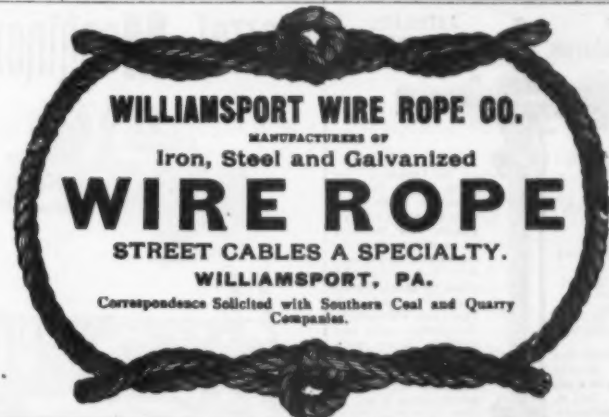


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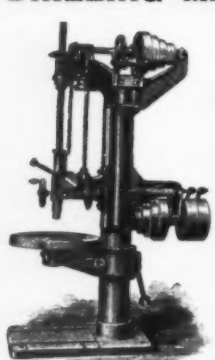
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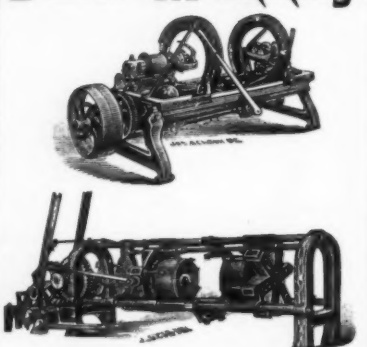
The Jeffrey Mfg. Co.

121 W. State St., Columbus, O.

**WHICH? BUTTER OR
CHEESE.**If either, or both, send for
J. S. CARTER'S illustrated
Catalogue, which gives full in-
formation of latest and best method
and appliances for making Cheese
or Butter, from the largest fac-
tory to the smallest dairy.
Carter's Cream Churner
System of Butter Making is a success.
JOHN S. CARTER, Syracuse, N. Y.**R. M. JOHNSON,**Manufacturers' Agent and Dealer in Corliss,
Automatic Cut-Off and Plain Slide Valve**Steam Engines and Boilers,**Saw Mills, Machinists' Tools, Wood-Working
Machines, Mining, Brick, Ice, Grist Mill, Dairy,
Canning and Electric-Lighting Machinery a
Specialty; also Double Cylinder Traction En-
gines. Complete outfits supplied at lowest prices.
Correspondence is solicited.**R. M. JOHNSON, Wheatland, Va.****E. & B. HOLMES,**

BUFFALO, NEW YORK,

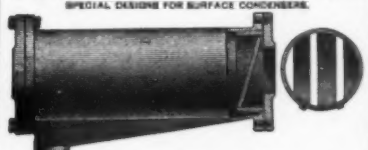
MANUFACTURERS OF

Barrel Machinery.**Chambers Patent Barrel Heater.**Capacity, 900 tight or 500 slack barrels per day.
The best Heater made.**E. & B. HOLMES, Sole Agents.****THE Sigourney Tool Co.**
HARTFORD, CONN.

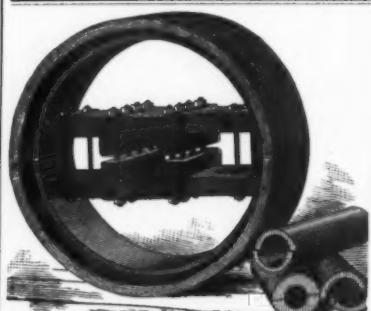
One, Two and Three

**Spindle
DRILLS.**

Sensitive,

STRONG—AND—
**Workmanship
UNEQUALLED.****Special Machinery, Tools, Models, &c.**
Built by Day or Contract.**THOS. K. CAREY & BROS., AGENTS, BALTIMORE.****BERNHARD DIETZ,** Manufacturer of **Printers' Rollers**
and Roller Composition. Factory, N. E. Cor. Grant
and Mercer Sts., Baltimore. Prices: Composition (bulk)
50 cents per pound; for casting, also 50 cents per pound.
Orders by mail promptly attended to.**WEBSTER'S "VACUUM" EXHAUST STEAM ECONOMIZER** utilizes the exhaust for heating buildings,
etc., returning the condensation to boiler, and for making
hot and purified water for boiler feeding and other pur-
poses. Send for pamphlet. **WARREN WEBSTER & CO.,**
491 N. Third Street, Philadelphia, Pa.**Barnard's Separator**For Separating and Removing Entrained
Water from Live Steam;AND
Condense Water, Oil, Dirt, Etc., from Exhaust Steam.

Send for Circular and Prices.

GEO. A. BARNARD,
15 Cortlandt St., New York.**The WELLINGTON BELT HOLDER.****W. R. SANTLEY & CO., Wellington, Ohio**

PATENTED MAY 29, 1888.

DOUBLE STRENGTH

WOOD SPLIT PULLEY,

MANUFACTURED BY

Chattanooga Wood Split Pulley Co. Chatt., Tenn**TAPER-SLEEVE PULLEY WORKS**211 W. 12TH ST.
ERIE, PA.Manufacturers of
Taper-Sleeve Wood
Belt Pulleys, Adjust-
able Dead Pulleys,
Friction Clutch Pul-
leys, Friction ClutchCouplings, Wood
Pulleys in Halves,
Taper-Sleeve and
Compression Coup-
plings, Shafting, Post
and Drop Hangers.
Correspondence so-
licited.**Patent-Belt Pulley.****SHEPARD'S New \$60 SCREW-CUTTING FOOT LATHE**Foot and Power Lathes, Drill
Presses, Scroll Saw Attachments,
Chucks, Mandrels, Twist Drills,
Dogs, Calipers, etc.
Lathes on trial. Lathes on
payment.
Send for catalogue of Outfits
for Amateurs or Artisans.
Address **H. L. SHEPARD, Agent,**
134 E. 2d Street, Cincinnati, Ohio.

Gap Lathes, \$1.25

MERCHANT'S

GUARANTEED

**Roofing
Plates.**WE not only give the purchaser the
best Roofing Plates, but we protect
him:FIRST—By guaranteeing every box.
SECOND—By stamping each sheet with
the brand and thickness.THIRD—By excluding wasters or de-
fective sheets.FOURTH—By branding the net weight
of the 112 sheets on each box, to satisfy
the customer (in this age of light-weight
plates) that he is obtaining **FULL WEIGHT.**For the benefit of those wanting the very
best Roofing Plates we assert, and are pre-
pared to prove, that there are no other
brands of roofing tin offered in the mar-
ket to-day, by any firm, under the four
different guarantees given above by this
house, and we challenge a public contra-
diction of this statement.**OUR BOOK ON TIN ROOF
WILL BE FURNISHED FREE
ON APPLICATION.****MERCHANT & CO.**

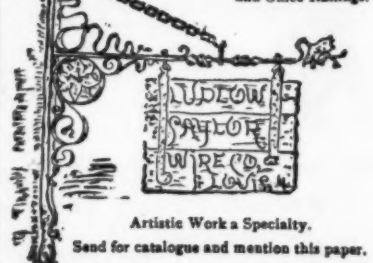
Philadelphia, New York, Chicago, London.

**Scranton's Improved Nail Puller**

MANUFACTURED BY

THE BELDEN MACHINE CO., New Haven, Ct.**WIRE RAILING**

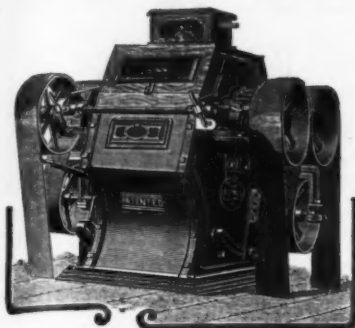
and Ornamental Wire Works.

DUFUR & CO. 113 & 115 N. Howard St., Baltimore.Wire Railing for Cemeteries, Lawns, Gardens, Off-
ices and Balconies; Window Guards, Tree Guards,
Wire Cloth, Sieves, Feeders, Cages, Sled and Coal
Screens, Iron Bedsteads, Chairs, &c.**WIRE & WIRE GOODS.**Wire Cloth, Rope, **SCREENS** for
Coal and Ores. Barbed and
Plain Fencing Wire, Bank
and Office Railings.

Artistic Work a Specialty.

Send for catalogue and mention this paper.

Read What a New York Miller Says of the Case Company.



OFFICE OF PETER SNYDER,
DEALER IN FLOUR, FEED AND LUMBER,

MANLIUS STATION, N. Y., October 26, 1889.

The Case Manufacturing Company, Columbus, Ohio:

GENTLEMEN: After running my mill over two months, I feel it my duty and in justice to you to state that I am more than pleased with the mill you built for me. It started like a clock "from the word go". My flour is discounting the fanciest brands of flour in the market. My clean-up is equal to any mill in the State. I will say that the Case Rolls and Flour Dressers cannot be beaten in the world for light running and ease of access to all their parts. I would advise any miller building a new mill or remodeling an old one to place their contract with the Case Company.

Thanking you for the prompt and efficient manner in which you furnished my machinery in so short a time, after so great a loss and damage by fire burning your works, and with the best of wishes I remain,

Yours respectfully,

PETER SNYDER.

For full particulars regarding the best FLOUR OR CORN MILL MACHINERY, address



THE CASE MANUFACTURING CO., Columbus, Ohio.

TRADE NOTES.

OUTFITS for canning establishments, to cost only \$125, and with a capacity of 1,500 to 2,000 cans a day, are advertised elsewhere by A. K. Robins & Co., 724 East Pratt street, Baltimore.

ONE of the coming industries for the South is that of paper making. Interested parties should read the advertisement in another column of F. H. Davis & Co., 101 Milk street, Boston, dealers in new and second-hand paper mill machinery.

THE Menasha Wood Split Pulley Co., of Menasha, Wis., had orders last week for their hardwood split pulleys from Yarmouth Duck & Yarn Co., Yarmouth, Nova Scotia; Valk & Murdoch Iron Works, Charleston, S. C.; J. W. Horsford Co., Newfane, Vt.

THE Pennsylvania Engraving Co., of 118 South Seventh street, Philadelphia, offers for sale in our advertising columns a five horse-power engine, together with boiler, stack, metal-working machines, shafting, belting, stereotyping outfit, etc.

AN opportunity to purchase a complete outfit for a canning establishment is offered in our advertising columns by A. P. Edge, Darlington, Md. Much of the outfit is almost new, and everything is said to be in excellent condition. A bargain is offered for cash.

"My business is increasing right along," writes R. M. Johnson, of Wheatland, Va., dealer in steam engines, boilers, creamery machinery, etc., to the MANUFACTURERS' RECORD, "and I would not be without your paper for several times the cost of my advertisement."

THE Berger Manufacturing Co., Canton, Ohio, have had such an increase of trade in their line of iron and steel roofing that they have been forced to enlarge by more than doubling their present capacity, and are now fitting up a new factory opposite the site of their present plant.

MERCHANT & Co., of Philadelphia, Chicago, New York and London, dealers in tinplate, sheet iron, rolled and drawn tubes of brass and copper, roofing plates and other metals and metallic products, send out one of the most striking colored calendars the MANUFACTURERS' RECORD has seen this year.

THE G. A. Gray Co., of 477 Sycamore street, Cincinnati, Ohio, offer in our advertising columns bargains in second-hand machine tools. These tools are in variety, have been put in good condition (some of them, it is said, being as good as new), and are offered at a greatly reduced price for cash. Nearly every kind of a machine required in a complete iron-working establishment will be found in this list of tools, with the cash price marked plainly against it. Parties desiring any tools should correspond with the Gray Co.

THE Gainesville (Ga.) Cotton Mills, well equipped with new machinery, a 100 horse-power Corliss engine, and with a capacity of 1,428 spindles, is offered for sale in our advertising columns at public auction, March 4th, by Robert E. Green, receiver. This is a chance for some one seeking an investment of this nature.

W. J. CLARKE & Co., Salem Ohio, manufacturers of the celebrated Salem elevator bucket and other conveying and elevating specialties for handling grain, coal ores, phosphate, rock, etc., desire to place their 1890 catalogue and price-list in the hands of every one using this class of labor-saving device. The Salem bucket has a world-wide reputation for strength and durability.

G. C. McNEIL, Akron, Ohio, manufacturer of patent dumping carts for blast furnaces, mines, etc., has gone into an extensive new plant, and will add the manufacture of iron and steel wheelbarrows and trucks of every description to his business. The success of the McNeil dumping barrow should guarantee a big business for a full line, which will soon be advertised.

THE MANUFACTURERS' RECORD is informed that the Lynchburg Ice Refrigerating Co. has contracted with the Richmond Ice Machine Co., of Richmond, Va., for a 15-ton plant, and to reorganize their present 10-ton plant on the Richmond system, as the capacity of the plant has not exceeded 7½ tons. An ice manufacturing company has been organized at Roanoke with a capital of \$40,000 to build a 15-ton Richmond plant, to be in operation before June 1st, and the same day that this contract was made a 10-ton plant was contracted for by Salem (Va.) parties. The Richmond Ice Machine Co. is pushing ahead with great energy, and seems destined to capture a good share of the ice-machine business.

THE Ball Engine Co., of Erie, Pa., made the following shipments in January: The California Electric Light Co., one 100 horse-power; Charles Block, Denver, Col., one 80 horse-power; Dayton Coal & Iron Mining Co., Dayton, Tenn., one 100 horse-power; The Okonite Co., Passaic, N. J., one 50 horse-power; Edison Electric Co., Le Grande, Ore., one 50 horse-power; B. F. Africa, Huntingdon, Pa., one 60 horse-power; B. F. Africa, Huntingdon, Pa., one 80 horse-power; Brooklyn Street Railway Co., Cleveland, Ohio, two 12½ horse-power; Central Thomson-Houston Electric Co., Somerset, Ky., one 80 horse-power; Lyle & Lee, Dawagiac, Mich., one 60 horse-power; Denver Electric Illuminating Co., Denver, Col., one 80 horse-power; Waterhouse Electric Co., Baltimore, Md., one 100 horse-power; E. S. Greely & Co., Brooklyn, N. Y., one 35 horse-power; Owensboro Electric Light Co., Owensboro, Ky., one 80 horse-power; Laredo Electric Light Co., Laredo, Texas, one 60 horse-power; Pueblo Light, Heat & Power Co., Pueblo, Col., one 100 horse-power; Alex. Jacobi & Co., Mt. Clemens, Mich., one 100 horse-power; Brooklyn Navy Yard, one 35 horse-power; Queen City Electric Co., Cincinnati, Ohio, one 150 horse-power; city of Tecumseh, Nebraska, one 50 horse-power.

BAKEWELL & MULLINS, of Salem, Ohio, have just completed what is said to be the largest metal statue made in this country. It is upwards of 30 feet high from base to tip, and designed to crown the dome of some public building in the Northwest. Seen from the car windows of the P., Ft. W. & C., R. R., it is a most noble and artistic production, and noteworthy for its massiveness.

THE National Pulley Covering Co., of Baltimore, have recently received their third order for their "patent friction covering" for pulleys from the Eagle Pencil Co., of New York, and fourth from Frank Hitch, Hamilton, N. C. This company has just appointed Chas. A. Turner, 18 Market street, Pittsburgh, agent for Pittsburgh, Allegheny, etc., their January business coming from eighteen widely separated States.

A WOOLEN mill is advertised in this issue for sale by R. Young & Co., Georgetown, Ohio. This mill, it is said, has an excellent equipment and is now running, and has an established trade. More than wool enough is raised in the immediate country to supply the mill, while fuel is very cheap. The situation is reported as excellent for such a business. Further information regarding the mill can be had upon application to the firm.

THE Crane Bros. Manufacturing Co., of Chicago, Ill., send out an exceedingly neat and artistic calendar to their friends and customers. This company has recently leased the fine new warehouses formerly occupied by the Reading Iron Works, 220 and 222 S. Fifth street, Philadelphia, Pa., and will place in stock a fine line of goods, including wrought iron pipe, boiler tubes, valves, fittings, tools, etc., for steam, gas and water; also radiators for steam and hot water.

ATTENTION is directed to the advertisement of D. F. Morgan, Akron, Ohio, in another column of this paper. Hot water heating is especially adapted to the requirements of the South, for the reason of its economy and ease with which temperature can be controlled. The return flue principle of the heater manufactured by Mr. Morgan is an improvement on all other methods, and renders waste of fuel not only unnecessary, but impossible. Plumbers, steam fitters and agents for steam heating should write for new illustrated catalogue.

SOME months since Mr. Brown, of Monbo, N. C., purchased of the Lowell Machine Shops one of the improved Foss and Pevey cards as an experiment to see what could be done with it. After running it several months he is so well pleased that more of the same cards have been ordered. The card now cards three laps of 50 pounds each per day, producing 143 pounds of railway roving for hosiery yarn of No. 14s. Good enough carding for No. 20 yarn. This product, it is claimed, makes this card very much the cheapest in the market, and must attract the attention of purchasers.

BUILDERS and managers of street and other railways will read with interest the advertisement in another column of R. T. White, 12 Pearl street, Boston, who manufactures and deals in material for street railway road-beds; also for cable, electric and elevated railways. On January 28th Mr. White was issued a patent on the Daisy chair for street car and other rails. This chair has already been extensively introduced by a number of roads. For the benefit of his customers Mr. White manufactures his goods as near the point of delivery as possible, to give purchasers the benefit of lessened transportation rates.

Western Block Co., Lockport, New York.

About a year ago we notified our readers of the formation of the Western Block Co., Lockport, N. Y. The members of this company were formerly connected with the oldest and largest block company in the country, and are thoroughly familiar with all branches of the business. They have paid particular attention to the quality of their work, and the result is they have secured a valuable class of trade requiring the best blocks that can be made. They manufacture a complete line of wood and wrought iron tackle blocks and sheaves, and make a specialty of iron blocks and sheaves for wire rope and chain. They report a large trade with railroads and contractors, and recommend their heavy



"ANVIL" SNATCH BLOCK.

blocks for railroad wrecking cars as the strongest and most durable in the market. The cut shows their new "Anvil" snatch block with self-locking link. This block has been tested and approved, and sample orders are solicited and satisfaction guaranteed. They also apply this self-locking link to their wrought iron snatch block, and this block is particularly desirable for railroad work and for use in the lumbering districts. In addition to their full line of regular blocks they are prepared to make any special styles and sizes that may be required, and will be pleased to quote prices on receipt of specifications. Write for their 1890 catalogue, which will soon be ready for distribution. Their advertisement appears this week on page 69.

The Markets.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, February 11, 1890.

Things in the iron trade are drifting into such a condition that the best judges are likely to find that they have been mistaken in their views. On the one hand, the most extraordinary consumption of material is in progress; on the other hand, markets in all sections of the country are reported dull; there are very few consumers attempting to buy, and very few sellers attempting to sell. This condition of things, of course, cannot last long; the enormous consumption means corresponding buying. Those who have large contracts on hand are permitting day after day and week after week to slip by, without making an effort to protect themselves against market fluctuations. The strong probabilities are, that sooner or later, most of these large buyers will come into the market all at the same time. What the effect of the presentation of so many large requirements at about the same time will be, it requires no prophet to foretell.

So far as quotations are concerned, there is no change, excepting that here and there a seller imagines that the market is likely to weaken and is anxious for cash; but the shadings made in such cases have but little weight. Consumers at large understand that the present production is no more than sufficient for the market, and are taking it for granted that there will be no serious drop in prices now, nor, in fact, at any time this year. Our advice, which we have been at considerable trouble to obtain from Southern markets, are to the effect that there is no surplus iron there—that is, when account is taken of the requirements of the large consumers who are now relying upon the product of Southern furnaces exclusively for supplies. Then again, it should be noted that the speculators in the Ohio Valley markets are standing ready, pocketbook in hand, to buy up as much iron as may be offered for sale at prices to suit them. A short time ago the speculative demand was suddenly arrested, but it has broken out again. This time, however, the transactions are of limited dimensions, because Southern makers are unwilling to go into heavy contracts far in advance. Quite a number are now sold up to June 30th, and as Southern irons are growing in request in Northern and Western markets, the makers are not willing to risk losing the possible advance of 25 or 50 cents per ton during the second quarter of the year. Southern coke foundry is selling at \$19.50 at St. Louis, and \$18.50 to \$19 at Cincinnati. Mahoning and Shenango iron is quoted at \$18.50 at the latter point. In Western Pennsylvania markets neutral gray forge is selling this week at \$17.50 to \$18.25; Bessemer iron has taken a rather sudden drop, and is quoted to-day at \$22.50. The reason for this is not far to seek. The activity during December overreached itself, and buyers now find that they unnecessarily crowded the market up on themselves. This, at least, is the view now generally expressed, but it may not be a correct one. The consumption of Bessemer pig has reached very large proportions. There is also a very heavy demand for Lake Superior charcoal for malleable iron use. Of one thing we may rest assured; and that is that the makers of iron will have no opportunity for a good while to accumulate stocks; and it is, therefore, idle to talk about a decline in prices at present. At Pittsburgh, muck bars are quoted at \$30 to \$30.50; at Philadelphia \$32.50. In New York markets spiegeleisen is quoted at \$37 and ferro-manganese at \$95 to \$100. Billets and blooms are in very active demand, and manufacturers continue to be oversold. There are buyers for all the capacity that will be available for the next

six months, and from this point of view it would be correct to say that the mills are oversold for that time, but of course prices are not fixed.

Some very interesting developments are occurring in foreign markets. There are several agitations among the coal miners particularly. Nearly all the Welsh coal miners are threatening to strike. 50,000 English miners are demanding better pay, and their leaders think they are in a position to enforce their demand. The iron workers are more peaceable, and only here and there are they agitating for more money. In a general way the cost of iron and steel making in Great Britain is increasing. There is a fairly good demand for all kinds of furnace and mill products. The same applies to the Belgian and German iron trade. There is a scarcity of coke and coal, and prices are high. The possibility of serious labor agitations is contemplated by both the coal and iron interests.

Returning to our home markets, we find that throughout the West there is an increased demand for barbed wire, builders' hardware, wire and cut nails, as well as sheet iron and merchant steel for machine-shop use. A look at Cleveland shows continued activity in both Bessemer and non-Bessemer ores at high prices. Several large transactions have just been closed for ore properties, and preparations will be made for their development at once.

The bar iron trade is rather quiet, and prices are not very strong. The sheet mills everywhere are crowded with work; plate and structural iron mills are also busy. Steel rails are quoted strong at \$35 to \$36 in Eastern and \$38 in Western mills. There are no new developments concerning large purchases, but it is intimated that a restriction of output will be announced in a few days and the rail-makers hope that this will stimulate to action the buyers who are now holding off to see how things are likely to go.

HARDWARE.

The market continues without material change in values, which remain firm, with good prospects of remaining in their present condition. The volume of business is large, and the feeling among the trade hopeful for the continuance of good trade. Stocks in the country are larger than usual at this season, owing to heavy purchases last fall; so that orders, while well assorted, are not quite equal in amount to those of former years. Factories continue behind their orders, notably manufacturers of edge tools, plow steels, bolts, chains, &c., subjecting the jobbers to great annoyance, as the smaller dealers cannot or will not understand why their orders are not filled complete. Most of the axe manufacturers have sold their plants and trade-marks to the American Axe & Tool Co., whose headquarters are at Pittsburgh. The new company claim this action was taken not so much to advance prices as to cheapen the cost of production, which result will undoubtedly be realized. The company have a capital of \$2,000,000 and will employ 10,000 men. Prices have not been fixed, but will shortly be given to the trade, who are awaiting the information with much interest.

Capitalists and small investors read "War" Robertson's advertisement in this paper. †

AMERICAN
PIG IRON Storage Warrant Co.
(Bank of America Building.)
44 Wall Street, NEW YORK.
Correspondence of Furnaces Invited.

DIXON'S DRY GRAPHITE or GRAPHITE GREASE
"are the only things that will keep cool journals on High-Speed Wood-Working Tools." So say many who have tried them.
JOS. DIXON CRUCIBLE CO., JERSEY CITY, N. J.

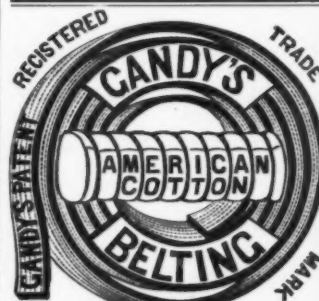
Philadelphia × Warehouse × Company,

No. 235 Dock Street, Philadelphia.

CAPITAL, \$1,000,000, FULL PAID.

This Company makes advances upon Pig Iron stored at Furnaces (storage charge being nominal) or in Public Warehouses, upon reasonable terms. Particulars upon Application.

F. M. POTTS, Sec. and Treas. R. H. PILE, Superintendent. BEAUVEAU BORIE, Vice-President. HARRY F. WEST, President.



The "Original Gandy"
Sewed Cotton Duck Belting.
Especially adapted for Main Drivers, Saw Mills, Cotton Gins, Cotton Presses, and for all places where belts are subjected to moisture or atmospheric changes, the "GANDY" stands paramount.
For further information, prices, etc., write
The Candy Belting Co.
BALTIMORE, MD.
SOUTHERN AGENTS: Smith & Courtney, Richmond, Va. Atlanta Rubber Co., Atlanta, Ga. Baker, Sloss & Co., New Orleans, La.

THE BEST & CHEAPEST
BELTING
IN THE WORLD
STITCHED CANVAS BELTING
THE CHESAPEAKE BELTING CO.
BALTIMORE, MD.

SAVE GAS. REDUCE BILLS AND SECURE BETTER LIGHT.

The American Gas Saving Co's Gas Controller.

Over 200,000 in use. Saves from 15 to 50 per cent. according to pressure in mains.

Adopted by U. S. Government after competitive tests; New York Elevated Railroad (saving \$11,519.37 in five months, over \$100,000.00 in five years). In use in thousands of Mills, Factories, Hotels, Depots, Public Buildings and Private Houses. Send for descriptive circular and testimonials. Find size of meter on brass plate in front with maker's name.

Full directions for attachment and testing sent with each. Controllers sent for trial on receipt of price, and money refunded, less express charges, if unsatisfactory and controllers returned in good order. All orders C. O. D. Agents wanted.

AMERICAN GAS SAVING CO., 35 Broadway, N. Y.

SHUREZ BELTING CO.
MANUFACTURERS OF
IT BELTS THE EARTH AND MAKES THE MOON SPIN LIKE A TOP.
OUR BELTING IS TANNED ON THE SURFACES ONLY. INTERIOR IS RAWHIDE. The only Perfect Belt made. No slipping or lost motion.
SEND FOR OUR VALUABLE BOOK, FREE.
ST. LOUIS, MO.
—AGENTS IN ALL CITIES—
Also Rawhide Lace Leather.



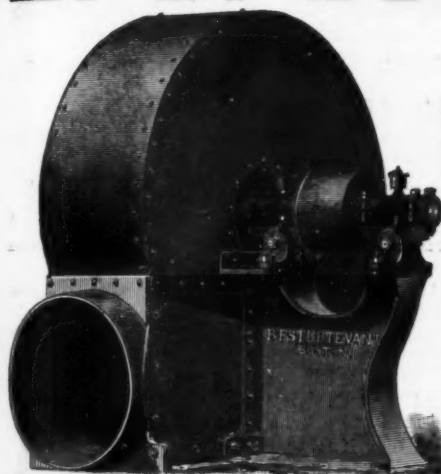
THE S. OBERMAYER FOUNDRY SUPPLY MFG. CO.

Foundry Facings. Foundry Supplies.

IMPORTERS AND REFINERS OF
GRAPHITE OR **BLACK LEAD.**
AND
Lubricating Plumbago.
NO CHARGE FOR TRIAL SAMPLES.

SHIPPERS OF ALL KINDS OF
Molding Sands,
MONK'S MOLDERS' TOOLS.
Cincinnati, O., U. S. A.
Write for Illustrated Catalogue and
Price List.

B. F. STURTEVANT'S



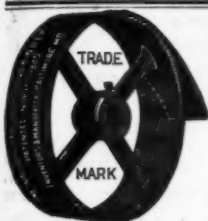
IMPROVED Steel Plate Exhaust Fan,

For moving Chips, Shavings and Saw
dust from Wood Working Machin-
ery. Send for catalogue No. 39.

Elevating Wool, Cotton, Cotton-Seed
Seed Cotton Hulls and similar mate-
rials. Send for catalogue No. 27.

B. F. STURTEVANT,
BOSTON, MASS.

SALESHOOK 34 OLIVER STREET, Cor. Franklin.
Branches— 91 Liberty Street, N. Y.; 31 N. Canal Street, Chicago.



Keep Your Belts from Slipping

AND SAVE YOUR POWER BY USING
FRICITION COVERING FOR PULLEYS.

Satisfaction Guaranteed. Easily Applied. No Rivets. Effective. Agents Wanted.

NATIONAL PULLEY COVERING CO., BALTIMORE, MD.



Geo. J. Fritz Improved Shirt Body Ironer.

LAUNDRY MACHINERY.

OUTFITS FOR LAUNDRIES COMPLETE.

The Fritz Patent ENGINE & BOILER

FOR LAUNDRIES,

AND

The Fritz Patent Band and Cape Collar Ironer

AND IMPROVED SHIRT BODY IRONER

Are pronounced by all Laundrymen using them as

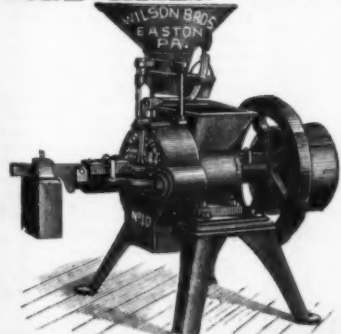
THE BEST.

Send for Illustrated Catalogue and my "BOOK OF USEFUL HINTS FOR STEAM USERS."
Free to those who mention this paper.

GEO. J. FRITZ, 2008 to 2028 S. THIRD STREET,
St. Louis, Mo.

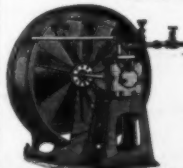
H. W. HUBBARD,
GIN AND MILL MACHINERY
General Southern Agent
Cotton Bloom Gins, Munson Corn and
Wheat Mills, Bowsher Feed Grinding
Mills, Osgood U. S. Standard Scales.
New Orleans, La. Dallas, Texas
AGENTS WANTED.

BONE MILLS. (P. WILSON, PAT.)



For the Farmer and Bone Dust Manufacturer.
Will grind bones green or dry. Circulars and
Testimonials on application.
Wilson Bros., Sole Manuf'rs, Easton, Pa.

CLARK'S
Drying, Ventilating & Exhaust Fans
With First-Class Engine Attached.
Get the best Fan for Drying and Ventilating
in the market.



GEORGE P. CLARK, Box C, Windsor Locks, Ct



Office and Warerooms, - 9 N. Liberty Street,
BALTIMORE, MD.

Chattanooga Paint Company.

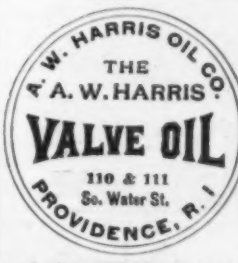
CHATTANOOGA,
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Manufacturers of the

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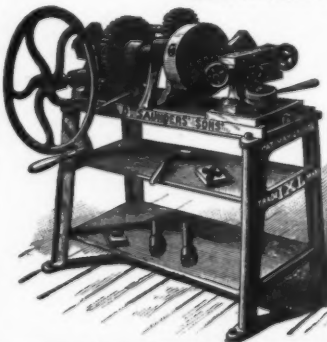
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SAMPLES & PRICE LIST.

Eastern Lumber Markets.

[Spec. correspondance MANUFACTURERS' RECORD.]

NEW YORK, February 11, 1890.

There is going to be a sharp contest this year for the trade in hardwoods, according to the dictum of some wholesalers. The fact of the matter is, that the wholesalers are going to intrude on the retail trade and sell lumber wherever they can. A number of reasons could be assigned for this departure, if such it is, but the main one is that business is getting scarce and must be picked up wherever it is to be found; another reason is that a great many offerings of hardwoods have been made within the past few months to retail buyers in this city by Southern manufacturers, and this is breaking up the old established custom in this city of the wholesalers supplying the wants of the retailers. The retailers feel that they have been at the mercy of the wholesalers; the latter feel that they have no protection from the Southern manufacturers and shippers who want to deal direct.

The policy may be a good one, and it may not be. Southern shippers have their best friends in the wholesalers; the latter watch their interests and are in a position to know what course of action to advise. In taking the matter into their own hands Southern shippers run several risks. In the first place, they are liable to throw a good deal of stock on this market at a time when it is not wanted, and which has to be piled up for future customers, and subject to all the contingencies of such delay. A variety of reasons could be assigned, but this one ought to be sufficient.

The only news concerning white pine is that it is hard to sell. There seems to be an idea in this market that it is going to the dogs; in other words, that so much will be offered that prices will go still lower; but this is almost an impossibility. There is very little in white pine, either in the West or here. Our stocks here are not large, but there is plenty at Buffalo, Tonawanda and other Lake ports. There have been several large offerings in white pine lately, but no one has taken hold, and that in spite of the fact that we are about entering upon the most active building year we have ever known. There ought to be no doubt about the safety of buying lumber at present prices. The liberal offerings may not be renewed in March or April, and buyers may then regret that they did not take advantage of these opportunities.

It would be useless to go over the list of quotations; prices depend upon who buyers and sellers are. There is a surprising difference among our wholesalers as to the acceptance of offers that are being made to them; but perhaps they know best why they decline.

A good deal of spruce is coming in, and there is an urgent demand for it. Prices will be raised next spring.

Some of our people have been through the hemlock region to find out for themselves how things look. They have returned with the idea that prices will be a little stronger this season than last, but have not given the trade the reasons for their belief. At present hemlock prices are strong, but it is impossible to say how long they will continue so.

Our receipts of yellow pine are about as large as usual during an open winter. The retailers are selling a good deal of stuff from day to day, but are not making any effort to unload in a large way; they are rather trying to realize the very most out of what they have. The demand for flooring is good. All kinds of finishing lumber are selling in a fair way.

The demand for North Carolina pine is constant. Stuff is coming in steadily and finding ready sale. Dressed stuff is moving rapidly, and it is almost impossible to gather stocks. There will be a heavy demand from the railway companies next

spring, as terminal facilities on a large scale are to be established here.

There is a good demand just now for both plain and quartered oak. Poplar is selling well, and people are inquiring about the prospects for spring. A fair amount of cypress is moving.

There is not much doing in walnut, excepting in gathering stocks for export. The exporters think the foreign markets will absorb a great deal this year, and no doubt they will.

There is a fair amount of ash on hand, and consumption is large for this time of the year. Western parties who have stocks are corresponding with parties here relative to the best prices to be had, and when and how to ship.

Shipments of lumber from Williamsport last year footed up nearly 167,000,000 feet.

THOMAS J. SHRYOCK & CO.
YELLOW PINE COMMISSION
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8x2 1/2	1 1/2	7	1 75	3 50	4 50
8x3 1/2	1 1/2	8	2 50	5 00	6 50
9x3 1/2	1 1/2	10	3 50	7 00	9 00
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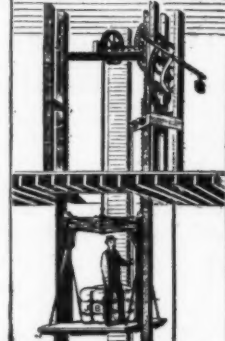
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SCREW JACKS,
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50 varieties of Lever and Screw Jacks for railroad use.
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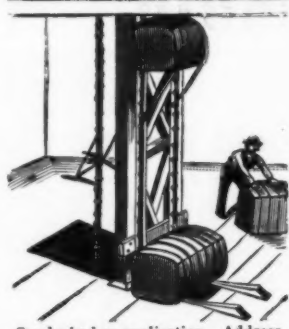
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Great and Uniform
PRESSURE
—IS REQUIRED.—
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Bates' Hand Elevators
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OVER 6,000 IN USE.


Adapted for Warehouses, Stores, Factories, Hotels, Public Institutions and every place where merchandise, &c. is transferred from one story to another.

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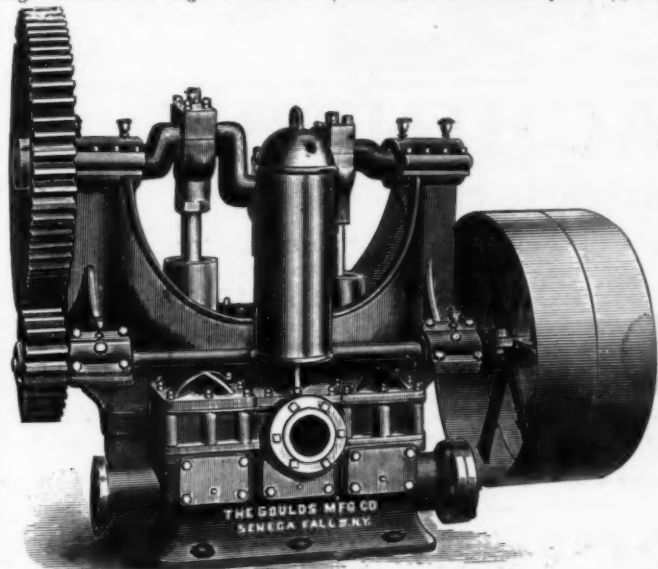
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United States
 **Standard Scales.**

A Warrant Given with Every Scale Sold, and an Absolute Guarantee of Perfection!
HANDSOMELY FINISHED!
ACCURATE AND DURABLE!
Sold by all Jobbers and Made by
JONES OF BINGHAMTON, Binghamton, N. Y.

Goulds' New Triplex Suction and Force Pumps.

The Goulds Manufacturing Co., of Seneca Falls, N. Y., are manufacturing new triplex or three-barrel suction and force pumps constructed for various purposes. While this type of pumps has never, it is said, been built in the United States before, they have been long built and very favorably regarded in both England and Ger-



GOULD'S GEARED TRIPLEX SUCTION AND FORCE PUMP.

many by manufacturers and engineers; and from practical experience with them during the past few months in their own works under many varieties of experimental duty, the Goulds Co. say they possess marked points of superiority.

They turn out two kinds of these pumps—one with outside packed plungers, with or without, as desired, gearing for high-pressure service; the other, with inside packed plungers for low-pressure service.

Both high and low-pressure pumps have hand holes for easy access to all valves, which are of hard rubber with spiral springs similar to steam pump valves, with composition grid seats. The high pressure-plungers reciprocate through carefully fitted glands and will move either hot or cold water (the former under proper conditions) no matter how dirty or gritty, semi-fluids and the like without cutting; while the low-pressure plungers are about 8 inches long, with three hydraulic cup leather packings fitted to each cylinder so accurately and nicely as to produce the minimum of friction in operation.

The main casting consists of three heavy cast iron cylinders, carefully bored, reamed and polished, with outwardly extending supporting arms for the crank shaft, which runs in babbitted boxes; the crank shaft, of best steel, is adequately heavy and has journals precisely 120° apart in the circle it describes, to which are connected the plunger rods with babbitted boxes and caps.

Suction can be had at either end of bed plate, one of which openings has a blank, and the discharge is from the side or top of a large air chamber, as most convenient. A babbitt metal sleeve surrounds the pin, tying the plunger and connecting rod together, which when worn can be replaced, thus providing an easy and cheap means of taking up the wear.

One cylinder of this combination will, from the nature of things, be always taking and delivering water, for the very instant one crank has made one-third of a revolution another follows immediately, and that by the third, so that there are no points of uneven resistance, no hitching, jerking or hammering, no break in the ingress or egress of the water, and a supreme efficiency of applied power is obtained,

thus giving a smooth running and even moving pump.

The field of application is very extensive, such as for irrigation, hydraulic elevators, boiler feeding, pulp grinding, etc.

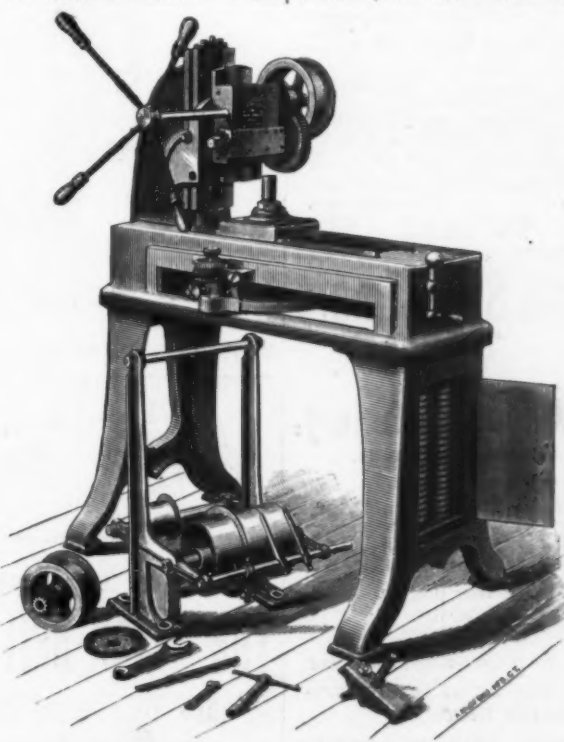
In the pump shown in the cut is embodied all the good features of this class of pumps—thoroughly first-class in material and workmanship, adequately heavy and strong in all parts, compact and built for service, economical in operation, all parts

necessary first of all to employ machinery of an equally high standard, and this they are doing. One of the most popular machines of its class among manufacturers North and South, East and West, is the celebrated Whiton improved gear-cutting machine, shown in the engraving on this page. It embodies in its construction many attractive features and has proved to be exceptionally well suited for use in cotton mills, where many of them will be found installed. By reference to engraving our readers will get a good idea of the general character of the Whiton gear-cutting machine, and a brief description of its good points will serve to show the high character and class of work which can be accomplished by its use. It is manufactured by the D. E. Whiton Machine Co., located at New London, Conn., manufacturers of superior gear cutters, centering machines lathe and drill chucks in great variety, and one of the most wide-awake and enterprising concerns in the New England States.

This machine is simple in construction, strong and compact, and designed for the use of cotton mills, tool, repair and general machine shops, occupying a floor space of 24x48 inches, and weighs, when ready for shipment, about 900 pounds. It will cut every number to 100, every even number to 186, and has a very wide range of higher numbers. It will also cut spur, bevel and worm wheels to 32 inches diameter, by 8-inch face, of six diametral pitch and less, in steel, iron, brass or wood, and is remarkably effective on all sizes under 15 inches. It may be accurately set at any desired angle for bevel gears by a nicely graduated arc, and has a graduation adjustment either side of the vertical, so that it may be easily set for cutting wheels to be operated by worms of almost any pitch; also for trimming the side of bevel gear teeth, when set over at any angle. The cutter is fed through the blank by hand, as shown, a method necessary by reason of the low price of the machine, and also one by which the largest amount of work (particularly light work) may be accomplished. The machine is furnished with all necessary change wheels, tables of division, wrenches, one blank arbor with nut for

Whiton's Improved Gear-cutting Machine.

Southern manufacturers are not one whit behind their Northern brethren in the



WHITON'S IMPROVED GEAR-CUTTING MACHINE.

adoption of first-class machinery for their mills and factories. They recognize that one cannot make a good article with poor tools, and further, that to successfully compete with Northern manufacturers it is

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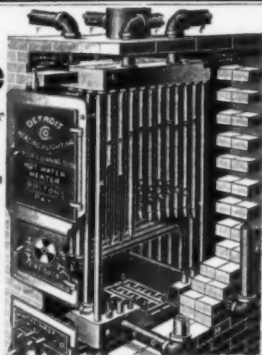
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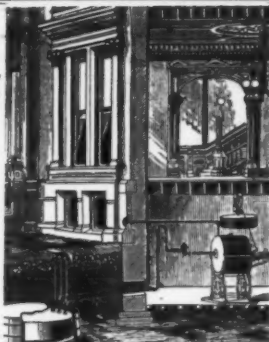
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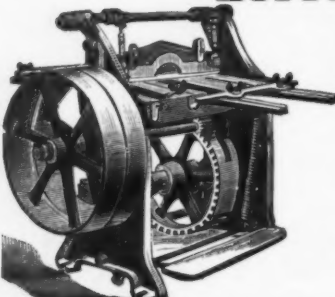
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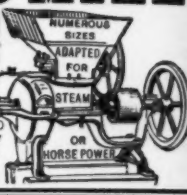
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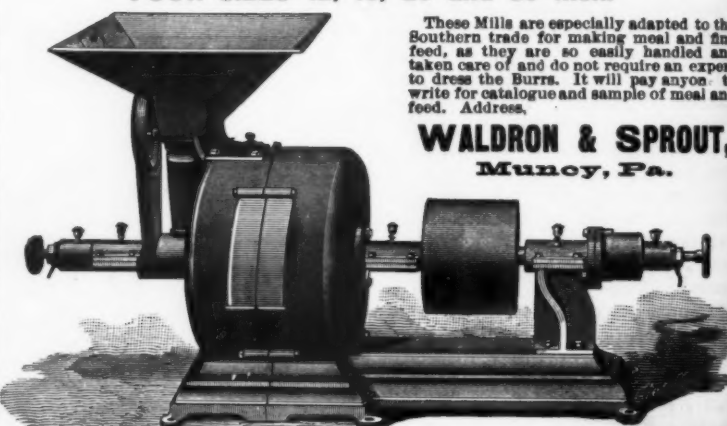


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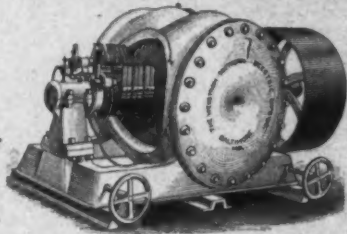
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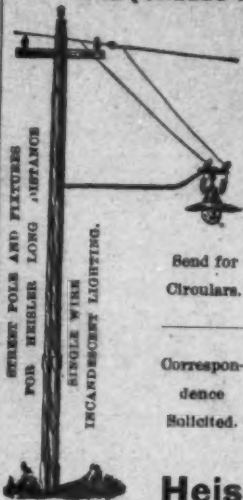
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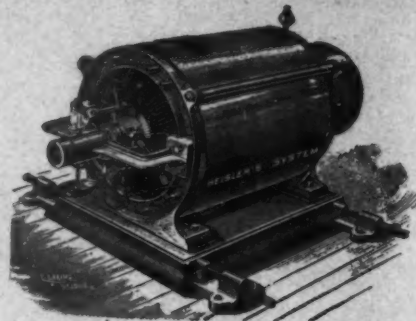
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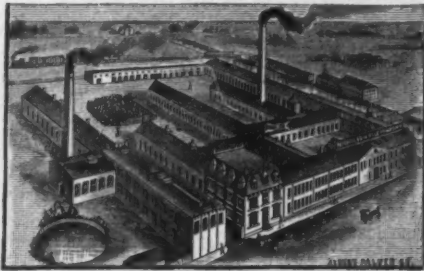
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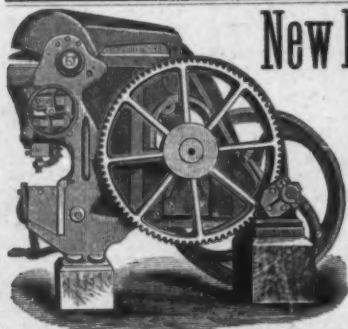
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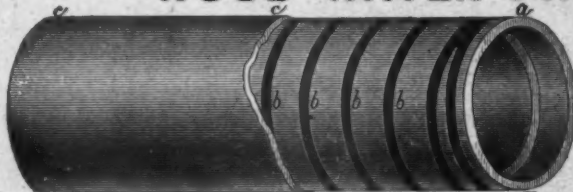
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